Operating and Service Manual

MODEL

75A250

PART NUMBER

1007750-501

SERIAL NUMBER

23591

AMPLIFIER RESEARCH
Souderton, PA 18964-9990 USA
TEL 215-723-8181 TWX 510-661-6094 FAX 215-723-5688

AMPLIFIER RESEARCH

160 School House Road, Souderton, PA 18964-9990 USA
TEL 215-723-8181 • FAX 215-723-5688

EC Declaration of Conformity

We; Amplifier Research
160 School House Road
Souderton, Pa. 18964

declare that as of 1997, our product(s);

the Model 75A250 series amplifiers

to which this declaration relates is in compliance with the requirements of the EEC EMC Directive (89/336/EEC) and Low Voltage Directive (73/23/EEC) in accordance with the relative standards listed below:

EMC:

EN 50082-2 : 1995
Electromagnetic compatibility - Generic immunity standard
Part 2: Industrial environment

EN 55011 : 1991
Electromagnetic emissions requirements for Industrial, Scientific and Medical (ISM) Equipment
Group 1, Class A

Safety:

IEC 1010-1 : 1990 + A1, A2

The CE marking is affixed on the device according to the EC Directives.

Donald R. Shepherd
President

⚠ INSTRUCTIONS FOR SAFE OPERATION

BEFORE APPLYING POWER

Review this manual and become familiar with all safety markings and instructions.

Verify that the equipment line voltage selection is compatible with the main power source.

Protection provided by the equipment may be impaired if used in a manner not specified by Amplifier Research.

INTENDED PURPOSES

This equipment is intended for general laboratory use in a wide variety of industrial and scientific applications. It is designed to be used in the process of generating, controlling and measuring high levels of electromagnetic Radio Frequency (RF) energy. Therefore the output of the amplifier must be connected to an appropriate load such as an antenna or field generating device. It is the responsibility of the user to assure that the device is operated in a location which will control the radiated energy such that it will not cause injury and will not violate regulatory levels of electromagnetic interference.

HAZARDOUS RF VOLTAGES

The RF voltages on the center pin of the RF output connector can be hazardous. The RF output connector should be connected to a load before AC power is applied to the amplifier. Do not come into contact with the center pin of the RF output connector or accessories connected to it. Place the equipment in a non-operating condition before disconnecting or connecting the load to the RF output connector.

SAFETY GROUND

This equipment is provided with a protective earth terminal. The main power source to the equipment must supply an uninterrupted safety ground of sufficient size to the input wiring terminals, power cord, or supplied power cord set. The equipment **MUST NOT BE USED** if this protection is impaired.

PHYSICAL DAMAGE

The RF amplifier should not be operated if there is physical damage, missing hardware or missing panels.

MAINTENANCE CAUTION

Adjustment, maintenance, or repair of the equipment must be performed only by qualified personnel. Hazardous energy may be present while protective covers are removed from the equipment even if disconnected from the power source. Contact may result in personal injury. Replacement fuses are required to be of specific type and current rating.

INSTRUCTIONS FOR SAFE OPERATION (continued)

SAFETY SYMBOLS

This symbol is marked on the equipment when it is necessary for the user to refer to the manual for important safety information. This symbol is indicated in the Table of Contents to assist in locating pertinent information.

Dangerous voltages are present. Use extreme care.

CAUTION: The caution symbol denotes a potential hazard. Attention must be given to the statement to prevent damage, destruction or harm.

Indicates protective earth terminal.

RANGE OF ENVIRONMENTAL CONDITIONS

This equipment is designed to be safe under the following environmental conditions:

Indoor use

Altitude up to 2000M

Temperature of 5°C to 40°C

Maximum relative humidity 80% for temperatures up to 31°C. Decreasing linearity to 50% at 40°C.

Mains supply voltage fluctuations not to exceed ± 10% of the nominal voltage or minimum and maximum autoranging values.

Pollution degree 2: Normally non-conductive with occasional condensation

While the equipment will not cause hazardous condition over this environmental range, performance may vary.

COOLING AIR

Care should be exercised not to block the cooling air inlets or outlets. Cooling air blockage can result in damage to the RF amplifier or intermittent shut downs.

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SECTION I

GENERAL INFORMATION

1.1 GENERAL INFORMATION

The Model 75A250 Amplifier is a self-contained broadband unit designed for laboratory applications where instantaneous bandwidth, high gain and moderate power output are required. Solid state technology is used exclusively to offer significant advantages in reliability and cost. A valuable feature is the continually variable attenuator which enables the operator to adjust the amplifier gain over a 18 dB range to meet specific output power requirements by means of a simple front panel control.

Typical applications include antenna and component testing, wattmeter calibration, EMI susceptibility testing, use as a driver for frequency multipliers and high power amplifiers and as an RF source for nuclear magnetic resonance imaging studies.

1.2 POWER SUPPLIES

The 75A250 has a self-contained switching power supply. The input voltage range to this supply is 90-132 VAC or 180-264 VAC, 50/60 Hz, universal or selected automatically. The operator does not have to switch or change anything when changing the input line voltage.

The power consumption is a maximum of 400 watts. Primary circuit fusing is provided.

1.3 SPECIFICATIONS

Refer to Amplifier Research Data Sheet on the next page for detailed specifications.

AMPLIFIER RESEARCH
160 School House Road, Souderton, PA 18964-9990 USA
TEL 215-723-8181 • FAX 215-723-5688

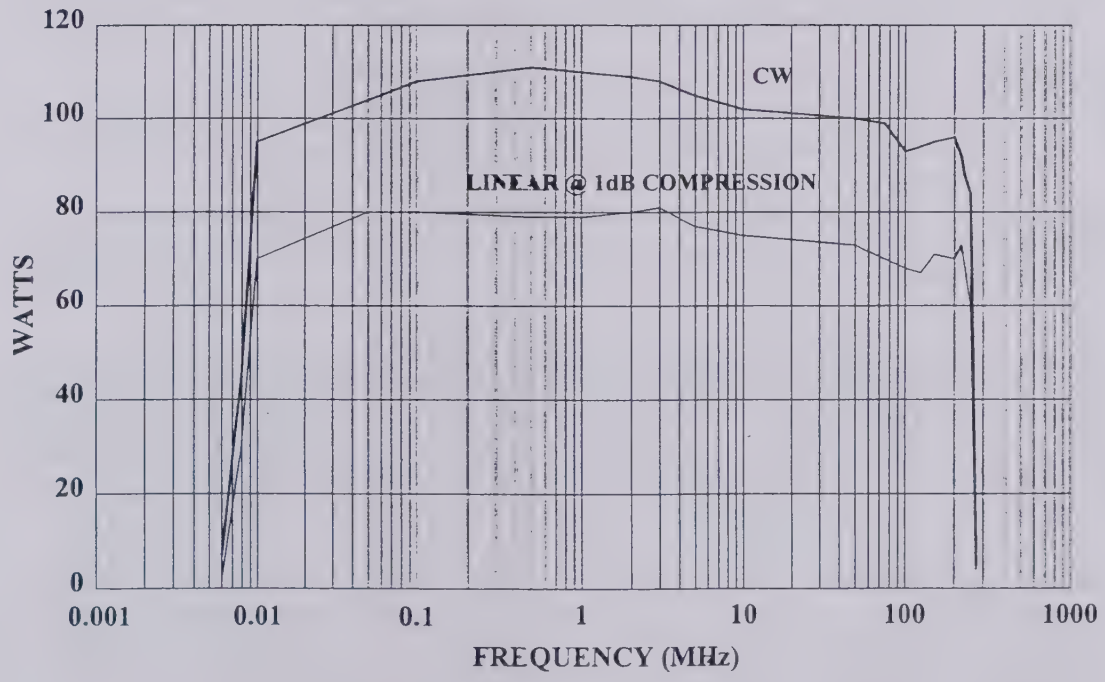
MODEL 75A250
75 WATTS CW
10 kHz - 250 MHz
with Versions M1-M4

The Model 75A250 amplifier is a self-contained, broadband unit designed for laboratory applications where instantaneous bandwidth, high gain and moderate power output are required. Utilization of push-pull MOSFET circuitry lowers distortion, improves stability and allows operation into any load impedance without damage. The Model 75A250, when used with an RF sweep generator, will provide a minimum of 75 watts of swept power.

The Model 75A250 includes a front panel control which permits the operator to conveniently set the amplifier's desired output level. Housed in a stylish contemporary enclosure, the Model 75A250 provides readily available RF power for typical applications such as RF susceptibility testing, antenna and component testing, watt meter calibration, and use as a driver for higher power amplifiers.

The 75A250 utilizes a switching power supply with a universal, autoranging input which will automatically accept from 90 to 135 VAC or from 180 to 270 VAC at 47 to 63 Hz.

75A250 TYPICAL POWER OUTPUT



REV112597

SPECIFICATIONS
Model 75A250

POWER OUTPUT, CW
Nominal ..... *100 watts*
Minimum ..... *75 watts*
Linear @ 1dB compression ..... *50 watts minimum*

FLATNESS ..... *± 1.0 dB maximum*

FREQUENCY RESPONSE ..... *10 kHz - 250 MHz instantaneously*

INPUT FOR RATED OUTPUT ..... *1.0 milliwatt maximum*

GAIN (at maximum setting) ..... *49 dB minimum (See Model Configurations)*

GAIN ADJUSTMENT (continuous range) ..... *18 dB minimum*

INPUT IMPEDANCE ..... *50 ohms, VSWR 1.5:1 maximum*

OUTPUT IMPEDANCE ..... *50 ohms, VSWR 2.0:1 maximum*

*MISMATCH TOLERANCE ** ..... *100% of rated power without foldback. Will operate without damage or oscillation with any magnitude and phase of source and load impedance.*

MODULATION CAPABILITY ..... *Will faithfully reproduce AM, FM, or pulse modulation appearing on the input signal*

NOISE FIGURE (above 1.0 MHz) ..... *6 dB typical*

HARMONIC DISTORTION ..... *Minus 20 dBc maximum at 50 watts*

THIRD ORDER INTERCEPT POINT ..... *57 dBm typical*

PRIMARY POWER ..... *90-135/180-270 VAC*
47 to 63 Hz, single phase 400 watts maximum

RF CONNECTOR (Type) ..... *Type N female*
(Location) ..... *See Model Configurations*

COOLING ..... *Forced air (self contained fans)*

** See Application Note #27*

MODEL CONFIGURATIONS

MODEL NUMBER	*RF CONNECTOR LOCATION*	*GAIN CONTROL*	*INSTRUMENT CASE*	*WEIGHT*	*SIZE (W x H x D)*
75A250	*Front Panel*	*Yes*	*Yes*	*15.9 kg (35.0lb)*	*50.3 x 15.5 x 30.0 cm 19.8 x 6.1 x 11.80 in*
75A250M1	*Rear Panel*	*Yes*	*No*	*11.4 kg (25.0lb)*	*48.3 x 13.5 x 29.3 cm 19.0 x 5.3 x 11.5 in*
75A250M2	*Front Panel*	*No*	*Yes*	*15.9 kg (35.0lb)*	*50.3 x 15.5 x 30.0 cm 19.8 x 6.1 x 11.80 in*
75A250M3	*Rear Panel*	*Yes*	*Yes*	*15.9 kg (35.0lb)*	*50.3 x 15.5 x 30.0 cm 19.8 x 6.1 x 11.80 in*
75A250M4	*Front Panel*	*Yes*	*No*	*11.4 kg (25.0lb)*	*48.3 x 13.5 x 29.3 cm 19.0 x 5.3 x 11.5 in*

SECTION II

OPERATING INSTRUCTIONS

2.1 GENERAL

Operation of the Model 75A250 broadband amplifier is quite simple. The input signal, whether swept or fixed in frequency, is applied to the jack marked "INPUT" and the amplifier output signal is taken from the jack labeled "OUTPUT". The unit is turned on by activating the power switch marked "1" / "0". In the event of a unit malfunction, protection is provided by fusing located at the rear of the unit. A polarized three (3) wire AC power cord is also included with the unit to provide cabinet and chassis grounding to the power mains.

⚠ CAUTION:

THE MODEL 75A250 AMPLIFIER IS NOT CRITICAL IN REGARDS TO SOURCE AND LOAD VSWR AND WILL REMAIN UNCONDITIONALLY STABLE WITH ANY MAGNITUDE AND PHASE OF SOURCE AND LOAD VSWR. IT ALSO HAS BEEN DESIGNED TO WITHSTAND RF INPUT POWER UP TO TWENTY (2) TIMES ITS RATED INPUT OF 1mW. HOWEVER. SIGNAL LEVELS HIGHER THAN 20 mW OR TRANSIENTS WITH HIGH PEAK VOLTAGES CAN DAMAGE THE AMPLIFIER. ALSO, ACCIDENTAL CONNECTION OF THE OUTPUT TO ITS INPUT CAUSES OSCILLATIONS WHICH MAY PERMANENTLY DAMAGE THE UNIT.

WHILE THE MODEL 75A250 WILL OPERATE AT ITS RATED OUTPUT POWER INTO ANY LOAD IMPEDANCE, THE AMPLIFIER MAY BE DAMAGED IF IT IS SIMULTANEOUSLY OVERDRIVEN WITH AN OPEN OR SHORT CIRCUITED LOAD. TO PREVENT DAMAGE TO THE AMPLIFIER, THE FOLLOWING PRACTICES ARE RECOMMENDED:

1) **DO NOT INTENTIONALLY OVERDRIVE THE AMPLIFIER AT ANY TIME. WHEN OPERATING INTO A MISMATCHED LOAD, TAKE SPECIAL PRECAUTIONS SO THAT THE INPUT CABLE CANNOT BE INADVERTENTLY OVERDRIVEN.**

2) **WHEN CONNECTING AND DISCONNECTING CABLES, TURN THE POWER SWITCH OFF. 75 WATTS OF RF POWER IS SUFFICIENT TO CAUSE SERIOUS ELECTRICAL SHOCK AND/OR BURNS.**

3) **CARE MUST BE TAKEN TO PREVENT RESTRICTIONS OF THE COOLING FAN AIR INLET OPENING ON THE BOTTOM OF THE UNIT. RESTRICTION OF THE OPENING FOR EXTENDED PERIODS WILL CAUSE OVERHEATING OF THE UNIT AND POSSIBLE PREMATURE FAILURE.**

2.2 AMPLIFIER OPERATION

Figure 2.1 shows the Model 75A250 Amplifier in pictorial form.

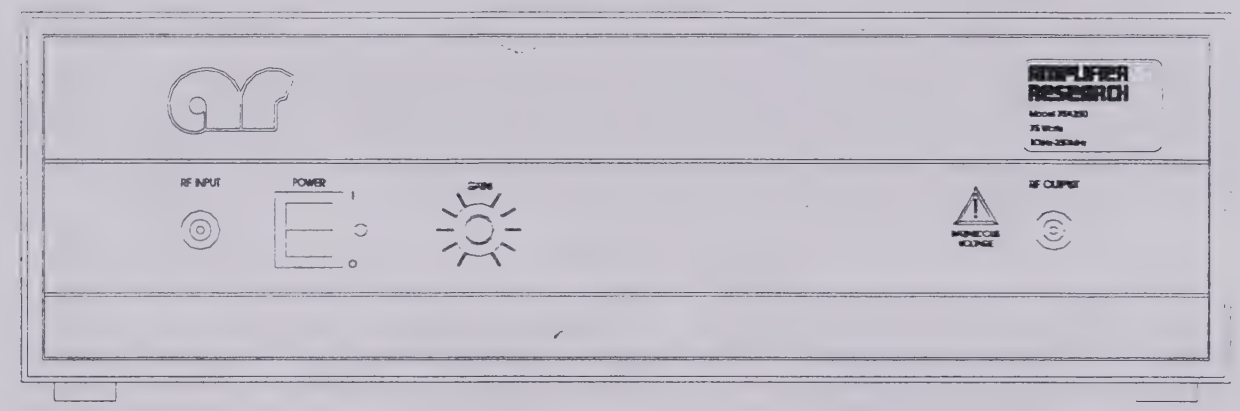


FIGURE 2.1
AMPLIFIER OPERATION

1. Connect the AC power to the unit.
2. Connect input signal to INPUT connector.
3. Connect load to OUTPUT connector.
4. Set gain control fully counter clockwise.
5. Activate power switch to on (1) position. A GREEN indicator light mounted on the front panel will light when power is applied.
6. Adjust gain control as required.

SECTION III

THEORY OF OPERATION

3.1 INTRODUCTION

The Model 75A250 amplifier consists of two (2) modules. The first module (A2) consists of three (3) cascaded mosfet amplifier stages that provide approximately 33dB of gain. This module drives the second module (A4) which consists of a dual mosfet amplifier operated as a push-pull stage that provides approximately 16dB of gain. Input and output networks are utilized to provide optimum power transfer of the RF signal when the amplifier is connected to a source and load impedance of 50 ohms. Interstage coupling is accomplished by means of capacitors between the three (3) cascaded stages and transformer coupling between these stages and the push-pull output stage. This provides an overall flat frequency response that is further enhanced by utilizing negative feedback around each transistor stage..

The self-contained power supply consists of a switching power supply, which features universal input voltage capability, followed by a current limiter circuit which provides over dissipation protection for the amplifier. Gate bias stability is provided by a three (3) terminal regulator set for 15 VDC.

3.2 AMPLIFIER SECTION

Refer to Schematic Diagram No. 1007868 and 1007872.

The input signal to the amplifier is fed through the front panel attenuator to the gate of Q1, which is input level limited by diodes CR1 and CR2. Biasing for Q1 is accomplished by R10, R14 and R16 which drives the gate of Q1. Bias voltage for Q2 is adjusted via R6 through R11 and R17. Output of Q2 is coupled through C4 to the gate of Q3. The output of Q3 is coupled to transformer T1 and T2 of the A4 module which is utilized to drive push-pull stage Q1A and Q1B. Resistor R12 sets bias voltages for Q1A and Q1B, in conjunction with R10 which is used to equalize the bias voltage on gates of Q1A and Q1B.

The output of Q1A and Q1B are coupled through matching transformers T3 and T4 to the coaxial connector on front panel of the unit.

Power gain of each of the three (3) cascaded stages is approximately +11 dB and +16 dB for push-pull stage, giving an overall gain of better than +49 dB for the amplifier.

U1 and U4 with their associated circuitry provide over-dissipation protection for the FETs in the final amplifier. This is done by sensing the DC input current. When the DC input current exceeds a preset level, the bias voltage on the output transistor is reduced, limiting the current.

3.3 POWER SUPPLY

Refer to Schematic Diagrams No. 1007756 and 1007690.

The self-contained power supply employs a switching power supply with universal input line voltage capability. Input AC power is fed through RFI filter FL1 before being switched by the main power switch S1. FL1 also contains the line fuses that protect the unit against excessive line current. Power switch S1 supplies power to the switching power supply PS1. The approximately 29 VDC output of PS1 is fed to a current limiter circuit A3. A3 allows the voltage to the amplifier to be adjusted to 28 VDC and also allows the current limit to be set to approximately ten (10) amps.

SECTION IV

MAINTENANCE

4.1 GENERAL MAINTENANCE INFORMATION

The Model 75A250 should require very little maintenance since it is a relatively simple instrument. It is built with etched circuit wiring and solid state devices which should ensure long, trouble-free life. However, should trouble occur special care must be taken in servicing to avoid damage to the devices or the etched circuit board.

Since the components are soldered in place, substitution of components should not be resorted to unless there is some indication that they are faulty. In addition, take care when troubleshooting not to short voltages across the amplifier. Small bias changed may ruin the amplifier due to excessive dissipation or transients.

Components with Amplifier Research instruments are conservatively operated to provide maximum instrument reliability. In spite of this, parts within an instrument may fail. Usually, the instrument must be immediately repaired with a minimum of "down time". A systematic approach can greatly simplify and thereby speed up the repair.

However, due to the importance of the amplifier's alignment, it is recommended that when failure is caused by breakdown of any of the components in the signal circuits, the amplifier be returned to the factory for part replacement and amplifier realignment. Shipping instructions are as follows:

Ship **PREPAID** via United Parcel Service to: AMPLIFIER RESEARCH
160 SCHOOL HOUSE ROAD
SOUDERTON, PA 18964

See warranty statement at rear of manual.

4.2 COVER AND CIRCUIT BOARD REMOVAL

CAUTION:

REMOVE POWER CORD FROM RECEPTACLE BEFORE SERVICING.

4.2.1 The amplifier can be removed from the housing by removing 4 screws from the front panel and 4 screws from the back panel. The amplifier can then be slid from the housing.

4.2.2 The top cover can be removed to gain access to the RF assembly. The bottom cover can be removed to gain access to the power supply assembly..

4.3 TROUBLESHOOTING

EXTREME CAUTION SHOULD BE EXERCISED WHEN TROUBLESHOOTING THIS UNIT. HAZARDOUS VOLTAGES EXIST IN THE UNIT WHICH COULD CAUSE SERIOUS INJURY TO ANY PERSONNEL PERFORMING INTERNAL MEASUREMENTS.

A good way to start troubleshooting is to check the supply voltage at the amplifier supply voltage terminal. If it is low or non-existent, check the power supply components starting with the AC line.

The power supply output voltage should be nominally +29.5 VDC. The output voltage of the current regulator assembly should be 28.0 VDC.

Assuming these voltages are correct, the problem may lie in the RF amplification chain. A re-alignment of the RF board should reveal the problem. Contact Amplifier Research for the appropriate alignment / test procedure.

CAUTION:

BEWARE OF VOLTAGES APPLIED TO THE GATE OF A MOSFET TRANSISTOR IN EXCESS OF ±20 V. THIS WILL RESULT IN TRANSISTOR GATE FAILURE.

4.4 SERVICING ETCHED CIRCUIT BOARDS

When soldering leads, use a hot forty (40) watt or smaller iron. Apply heat sparingly to the leads, not to the printed wiring on the board. Before installing new parts, clean holes to receive new part without forcing. Have new leads tinned to receive solder quickly with a minimum of heat and without residue.

SECTION V

REPLACEABLE PARTS

5.1 INTRODUCTION

This section contains information for ordering replacement parts. Information is provided for obtaining parts through Amplifier Research and/or from the manufacturer of the part. Included in this section are the following:

- Ordering Information
- Non-Listed Parts
- Circuit Designators
- Manufacturers' Abbreviation Listing
- Master List
- Schematics and Bills of Material (BOMs)

5.2 ORDERING INFORMATION

To obtain replacement parts, address your order to Amplifier Research, 160 School House Road, Souderton, PA 18964-9990 USA. Please include the instrument's Model Number and Serial Number.

TEL: 215 723-8181
TWX: 510 661-6094
FAX: 215 723-5688

5.3 NON-LISTED PARTS

To obtain a part that is not listed in this section, please include the following information with your order:

a. Instrument Model Number
b. Instrument Serial Number
c. Description of the Part
d. Function and Location of the Part

5.4 CIRCUIT DESIGNATORS

REF = Reference Document

A = Assembly

B = Fan

BT = Battery

C = Capacitor

CB = Circuit Breaker

CR = Diode

DL = Delay Line

DS = Lamp

E = Terminal

F = Fuse

F = Filter

5.4 CIRCUIT DESIGNATORS (continued)

J = Connector, Recept.

K = Relay

L = Inductor

M = Meter

P = Connector, Plug

Q = Transistor, Semiconductor

R = Resistor, Potentiometer

RT = Temperature-Sensing Element

S = Switch

T = Transformer

TB = Terminal Block

TP = Test Point

U = Integrated Circuit

V = Vacuum Tube, Neon Bulb, Photocell, etc.

VR = Zener Diode

W = Wire, Cable

X = Socket

Y = Crystal Unit

5.5 MANUFACTURERS' ABBREVIATION LISTING

This section contains a list of manufacturers' abbreviations. These abbreviations appear under the "Drawing Number" column on the Bills of Material (BOMs). The three letters or symbols before the backward slash represent the name of the manufacturer. The number after the backward slash represents the manufacturer's part number. See **Appendix A** (at the end of this section) for a complete listing of manufacturers' abbreviations.

5.6 MASTER LIST

The Master List provides the user with a quick view of the major assemblies of a unit. The assemblies are displayed in an indented format, with the corresponding schematic shown in the right column.

5.7 SCHEMATICS AND BILLS OF MATERIAL (BOM_S)

The schematics and BOMs are arranged in sequence according to the Master List. The schematic that appears first on the Master List also appears first in the schematic and BOM section. Following each schematic are the appropriate BOMs relating to the schematic. This pattern is repeated throughout this section.

5.7 SCHEMATICS AND BILLS OF MATERIAL (BOMs) (continued)

The BOMs used in this manual are computer-generated. Each computer part number appears only once on a BOM, along with the total quantity used and all of the applicable circuit designators. The BOMs are designed to organize the parts in alphanumeric order of their circuit designators. Typical manufacturer part numbers can be found in the drawing number column. The manufacturer's abbreviation appears first, separated by a backward slash, which is followed by the part number.

Amplifier Research has assigned computer product numbers to all parts in inventory. The computer product numbers are located on the left side of the BOM in the "Part Number" field. When referencing or ordering parts from Amplifier Research, it is best to use the computer product number. Parts may also be ordered directly from the manufacturer by using the manufacturer's part number, if desired.

AAV	AAVID
ABB	ABBEON
ACA	ANTENNA CORPORATION OF AMERICA
ACO	ARCO
ADA	ADALET
AND	ASTRO DYNE
AEC	ARNOLD ENGINEERING COMPANY
AEP	APPLIED ENGINEERING PRODUCTS
AER	AEROQUIP
AEX	AEROVOX
AHC	AIRLINE HYDRAULICS CORPORATION
AIN	AIN PLASTICS
AIR	AIRPAX
AIT	AERITALIA
AJO	A. J. OSTER FOILS INCORPORATED
ALC	ALCO
ALE	ALLIED ELECTRONICS
ALI	ASTROLAB INCORPORATED
ALP	ALPHA
AMA	AMATOM
AMC	AMPEX CORPORATION
AMH	AMPHENOL
AMI	AMPLIFONIX INCORPORATED
AMP	AMP INCORPORATED
AMR	AMREP
AMS	AMERICAN STANDARD
AND	ANALOG DEVICES
ANZ	ANZAC
APG	AP-O-GEE INDUSTRIES
APN	AMERICAN PRECISION
APO	AMPROBE
APP	A. P. PRODUCTS INCORPORATED
APR	AMPERITE
APX	AMPEREX
ARC	AMPLIFIER RESEARCH CORPORATION
ARE	ARROW ELECTRONICS
ARO	AROMAT CORPORATION
ARP	APPLE RUBBER PRODUCYS INCORPORATED
ASB	ASTRO-BUBBLES
ASC	AMERICAN SWITCH CORPORATION
ASD	AMERICAN STANDARD
ASP	ASSOCIATED SPRING
AST	ASTEC
ATC	AMERICAN TECHNICAL CERAMICS CORPORATION
ATL	ATLEE
AUG	AUGAT INTERCONN COMP DIVISION
AVA	AVA CORPORATION
AVF	ALLENTOWN VALVE & FITTING COMPANY
AVT	AVANTEK
AVX	AVX CORPORATION
A-B	ALLEN BRADLEY
A-C	ANDREW CORPORATION
A-M	AEC MAGNETICS
A-S	ALCOSWITCH

A-T ..... AHAM-TOR
BBI ..... BARON-BLAKSLEE INCORPORATED
BDX ..... BENDIX
BEL ..... BELDEN
BER ..... BERKLEY & COMPANY
BEY ..... BEY ELECTRIC
BFG ..... B.F. GOODRICH
BFI ..... BUCKEYE FORGE INCORPORATED
BKM ..... BECKMAN
BOK ..... BOKER'S INCORPORATED
BOP ..... BOPLA ENCLOSURES
BOR ..... BOURNS
BRD ..... BIRD ELECTRONICS
BRG ..... BERGQUIST
BUD ..... BUD COMPANY
BUS ..... BUSS
B-C ..... BONCO CORPORATION
B-E ..... BRIM ELECTRONICS
B-T ..... BEAU-TECH
B-V ..... BEAU VERNITRON
CAD ..... CADDOCK
CAM ..... CAMBION
CAN ..... CANNON
CAP ..... CANPACK
CAR ..... CARLING
CAT ..... CATAMOUNT
CCI ..... CRL COMPONENTS INCORPORATED
CDC ..... COMPACT DEVELOPMENT CORPORATION
CDI ..... COAXIAL DYNAMICS INCORPORATED
CEN ..... CENTURY ELECTRONICS
CES ..... COUNTY ELECTRIC SUPPLY COMPANY
CGI ..... COMPONENT GENERAL INCORPORATED
CHE ..... CHERRY
CHR ..... CONNETICUT HARD RUBBER
CIN ..... CINCH
CJS ..... CENTRAL JERSEY SCREW & BOLT
CKS ..... C & K COMPONENTS INCORPORATED
CLA ..... CLAROSTAT
CLC ..... CHICAGO LOCK COMPANY
CMI ..... CERAMIC MAGNETICS INCORPORATED
CMP ..... COMMERCIAL PLASTICS
CMT ..... CONTINENTAL MICROWAVE & TOOL
CNF ..... CINCINNATI FAN
COE ..... COMP ENTERPRISES
COL ..... COLDER PRODUCTS
COM ..... COMPUCON
CON ..... CONCORD ELECTRONICS
COP ..... COMPLETE PACKAGING
COR ..... CORCOM
CPC ..... C.P. CLARE
CPI ..... COMPUTER PRODUCTS INC.
CPL ..... COMPULITE
CPS ..... COLOR PRINT SCREENING
CRC ..... CRC CHEMICALS

CTS ..... CTS OF BERNE INCORPORATED
CUS ..... CUSTOM
C-D ..... CORNELL-DUBILIER
C-E ..... CORNING ELECTRONIC
C-I ..... CRAFTECH INDUSTRIES
C-P ..... CAPLUG COMPANY
C-T ..... CANADIAN THERMOSTATS
CWD ..... CESIWID INCORPORATED
DAL ..... DALE
DAT ..... DATEL INC
DEL ..... DELKER
DAY ..... DAYTON
DEN ..... DENNISON
DIA ..... DIALIGHT
DII ..... DATONA INDUSTIRES INCORPORATED
DIL ..... DIELECTRIC LABS
DKK ..... DOW KEY/KILOVAC
DLS ..... DALLAS SEMICONDUCTOR
DSC ..... DE-STA-CO
DTP ..... DOYLESTOWN PRINTING
DUP ..... DU PONT ELECTRONICS
D-E ..... DARBURN ELECTRONICS
D-G ..... DIMCO-GRAY
D-K ..... DIGI-KEY-CORPORATION
EBM ..... EBM IND.
ECO ..... EATON CORPORATION
ECS ..... ECS INTERNATIONAL
EFJ ..... E.F.JOHNSON
EGG ..... EG & G OPTOELECTRONICS
EGL ..... ELGAL
EIC ..... ELCTRO INSULATION CORPORATION
EIM ..... EIMAC
ELC ..... ELECTRO SWITCH CORPORATION
ELM ..... ELMENCO
ELR ..... ENGLER INSTRUMENT
EMC ..... E.M.C. TECHNOLOGY
EMI ..... ELECTRONIC MEASUREMENTS,INC.
EMM ..... ENGLEMANN MICROWAVE
EOD ..... ELECTRO-OPTIC DEV
ERI ..... ERIE TECHNOLOGY PRODUCTS
ERM ..... EREM CORPORATION
ESX ..... ESSEX
ETA ..... ETA
EVE ..... EVEREST ELECTRONIC EQUIPMENT
EVR ..... EVEREADY
EWS ..... ELMWOOD SENSOR
E-C ..... EMERSON AND CUMMING
EZF ..... EZ FORM CABLE CORPORATION
FCH ..... FAIRCHILD
FCI ..... FILTER CONCEPTS INCORPORATED
FER ..... FERRONICS
FEX ..... FERROXCUBE
FLO ..... FLO TRAN PNEU-DRAULICS INCORPORATED
FOS ..... FIBRE OPTIC COMMUNICATION SPECIALTIES

FRA ..... FRANZUS
FRK ..... FROST KING
FRM ..... FREEDMAN MALTA
FRP ..... FAIR-RITE PRODUCTS
FUJ ..... FUJITSU
FWC ..... FW CAPACITORS
F-S ..... FASTENER SPECIALTY
GAL ..... GALLAGER
GCE ..... G.C. ELECTRONICS
GCS ..... GLOBAL COMPUTER SALES
GEM ..... GEM
GDC ..... GENERAL DEVICES CO.
GOL ..... GOLDKAMP
GRA ..... GRAINGER
GRE ..... GREYARC
GRS ..... GENERAL RADIO SUPPLY
GRY ..... GRAYHILL CORP
GSI ..... GSI
GTL ..... GILWAY TECHNICAL LAMP
G-E ..... GENERAL ELECTRIC COMPANY
G-I ..... GENERAL INSTRUMENT
HAD ..... HARRY DAVIES
HAN ..... HANSON
HAR ..... HARRIS CORP
HAV ..... HAVERHILL CABLE AND MANUFACTURING
HDB ..... HOMER D. BRONSON
HEC ..... HIGH ENERGY CORPORATION
HEI ..... HEINEMANN
HEY ..... HEYCO MOLDED PRODUCTS
HEX ..... HEXACON
HHS ..... H.H. SMITH
HII ..... HOLODAY INDUSTRIES INCORPORATED
HIM ..... HITACHI MAGNETS
HMF ..... HILTON MANUFACTURING
HMN ..... HENRY MANN
HOL ..... HOLLINGSWORTH
HOW ..... HONEYWELL
HPC ..... H.P.CADWALLADER
HSI ..... HUBER & SUHNER INCORPORATED
HUB ..... HUBBEL
HUC ..... HUDSON CAN COMPANY
HUV ..... HANDLES UNLIMITED VERMALINE DIV.
HWK ..... HAWKINS METAL FABRICATION
H-C ..... HARTWELL CORP. COMMERCIAL DIVISION
H-P ..... HEWLETT PACKARD
H-R ..... HERBACH & RADEMAN
IBM ..... IBM
ICI ..... ILLINOIS CAPACITOR INCORPORATED
IDE ..... IDEAL
IER ..... IERC
ILS ..... ILSCO
IMB ..... IMB
IMC ..... IMC
INC ..... INTERNATIONAL CRYSTAL MFG COMPANY

INM ..... INMET
IPI ..... INSULFAB PLASTICS INCORPORATED
IRC ..... INTERNATIONAL RESISTIVE COMAPNY, INC.
IRM ..... IR-CRYDOM
ITF ..... ITERFAN
ITJ ..... ITT-JENNINGS
ITT ..... ITT CANNON
I-E ..... IMPERIAL EASTMAN
I-G ..... INDIANA GENERAL
I-R ..... INTERNATIONAL RECTIFIER CORPORATION
I-S ..... INSTRUMENT SPECIALTIES
JAR ..... J.A. REINHARDT
JDE ..... JOHANSON DIELECTRICS
JER ..... JERGENS INCORPORATED
JFD ..... JFD
JOH ..... JOHANSON
JON ..... JONATHAN MANUFACTURING
JOR ..... JORITA
JSR ..... JAY-CEE SALES & RIVET INC.
KCC ..... KEYSTONE CARBON COMPANY
KEY ..... KEYSTONE ELECTRONICS
KIN ..... KINGS
KLE ..... KLEIN
KSD ..... KESTER SOLDER DIVISION
KUL ..... KULKA
K-D ..... KD COMPONENTS
LAF ..... LAFRANCE CORPRATION
LBA ..... LAMBDA ELECTRONICS INCORPORATED
LEM ..... LIAISONS ELECTRONIQUES MECHANIQUES
LEV ..... LEVITON MANUFACTURING COMPANY
LIF ..... LITTLEFUSE
LOC ..... LOCTITE CORPORATION
LOR ..... LORD CORPORATION
MAC ..... MACOM
MAL ..... MALLORY
MAR ..... MARKEL CORPORATION
M-C ..... MICROCHIP
MCG ..... McGILL
MCR ..... MICREL INCORPORATED
MCS ..... McMASTER CARR SUPPLY COMPANY
MCX ..... MICRO-COAX
MDP ..... MODPAK
MEA ..... MITSUBISHI ELECTRONICS AMERICA, INC.
MEP ..... MEPCO-ELECTRA
MET ..... METUCHEN CAPACITOR
MFG ..... MANUFACTURER
MHW ..... M.H. & W. COMPANY
MIC ..... MICROMETALS IRON POWDER CORES
MIN ..... MINI-CIRCUITS
MIP ..... MICRO PLASTICS
MIR ..... MINOR RUBBER COMPANY
MIS ..... MICROSWITCH
MIT ..... MULTITHERM CORPORATION
MLC ..... M. LADER COMPANY

MLX ..... MILL-MAX CORP
MMI ..... MAGNETIC METALS INCORPORATED
MMM ..... MINNESOTA MINING MANUFACTURING
MOC ..... MOCAP
MOD ..... MODUTEC
MOL ..... MOLEX
MOR ..... MORS COMPONENTS INC
MON ..... MONSANTO
MOS ..... M/A-COM OMNI SPECTRA INCORPORATED
MOT ..... MOTOROLA
MPC ..... MULTI-PRODUCTS
MRS ..... MARSH
MSC ..... MICROSEMI CORPORATION
MUE ..... MUELLER
MUR ..... MURATA ERIE
MWA ..... MICROWAVE ASSOC
MWC ..... MIDWEST COMPONENTS
MWM ..... MIDWEST MICROWAVE
MWS ..... MICROWAVE SEMI-CONDUCTORS
M-C ..... M & C SPECIALTIES
M-E ..... MASTER ELECTRICIAN
M-M ..... MULTI-MAX CORPORATION
NAB ..... NORTH AMERICAN BRASS AND COPPER
NEB ..... NEBS INCORPORATED
NET ..... NETEK
NEW ..... NEWAGE INDUSTRIES
NIC ..... NIC COMPONENTS
NIE ..... NIELSEN HARDWARE
NJS ..... N.J. SEMI
NKK ..... NKK SWITCHES
NMB ..... NMB TECHNOLOGIES INCORPORATED
NOB ..... NOBLITT BROTHERS & COMPANY
NPP ..... NORTH PENN POLISHING & PLATING
NSI ..... NATIONAL SEMI-CONDUCTOR CORPORATION
NVS ..... NORTHAMPTON VALLEY SERVICE COMPANY
N-M ..... NATIONAL MOLDITE
N-P ..... NEM-PACK
OAP ..... OLEAN ADVANCED PRODUCTS
OHA ..... OHIO ART
OHN ..... OHMLITE
OKI ..... OK INDUSTRIES
OME ..... OMEGA
OMR ..... OMRON
OPM ..... OPTIMA
OPT ..... OPTIMAX
PAE ..... PACIFIC ELECTRICORD
PAJ ..... PHILLIPS AND JACOBS
PAM ..... PAMOTOR
PAN ..... PANASONIC
PAP ..... PAPST
PBC ..... POTTER & BRUMFIELD CORPORATION
PCI ..... PENN CRAFT INDUSTRIES
PEC ..... PENN CONTROLS
PCC ..... PANEL COMPONENTS CORPORATION

PEK ..... PEAK
PEN ..... PENN ENGINEERING
PFL ..... POLYFLON
PFS ..... POWER FILM SYSTEMS
PHC ..... PARKER HANNIFIN CORPORATION
PHI ..... POWER HYBRID
PLM ..... PLASTIC & METALS
PMP ..... PRECISION METAL PROD.
PMI ..... PRECISION MONOLITHICS INC.
PNT ..... PANDUIT
P-O ..... POWER ONE
POW ..... POWEREX
PRC ..... PRECISION RUBER COMPANY
PSI ..... POWER SEMI-CONDUCTOR INCORPORATED
PSP ..... PROJECT SUPPORT INCORPORATED
PTC ..... PRECISION TUBE COMPANY
P-B ..... PENN-BASCO
QUI ..... QUICKSET
RAF ..... R.A.F. ELECTRONIC HARDWARE INCORPORATED
RCA ..... RCA
RCC ..... RAYCHEM CORPORATION
RCL ..... RCL
REL ..... RELIANCE MICA COMPANY
REM ..... REMTEK
RES ..... ROSE ENCLOSURES SYSTEMS
RFP ..... RF POWER COMPONENRS INC
RIC ..... RICHCO
ROG ..... ROGAN
RON ..... RONCO CORPORATION
ROS ..... ROSS ENGINEERING
ROT ..... ROTRON
ROW ..... ROWLAND
RPC ..... REPUBLIC PACKAGING CORPORATION
RUS ..... RUSSEL INDUSTRIES
R-H ..... RYAN HERCO
R-N ..... ROBINSON-NUGENT
R-S ..... RADIO SHACK
SAG ..... SAGE LABORATORIES
SAM ..... SAMTECH
SBC ..... SCHROEDER BROTHERS CORPORATION
SCD ..... SCHADOW
SCH ..... SCHAUER
SCI ..... SPECTRUM CONTROL INCORPORATED
SCO ..... SCOTCH
SEA ..... SEASTROM INCORPORATED
SEL ..... SELECTRO CORPORATION
SEM ..... SEMIKRON
SEV ..... SEVENTY-THREE MANUFACTURING COMPANY
SGL ..... SGL INDUSTRIES
SGS ..... SGS
SIE ..... SIEMENS
SIG ..... SIGNETICS
SIM ..... SIMPSON
SLE ..... SL ELECTRONICS

SOC	SOUTHCO
SOE	STANDARD OIL ENGINEERING
SOH	SOHIO
SOL	SOLDAPULLT
SOW	SOLDER WICK
SPC	SPC TECHNOLOGY
SPE	SPECTROL
SPL	SPRA-LUBE
SPR	SPRAGUE
SPS	SPRINGFIELD PAPER SPECIALISTS
SSI	SWITCHING SYSTEMS INTERNATIONAL
SSM	SOLD STATE MICROWAVE
SSS	S & S TECH
SST	SST
STA	STANCOR
STB	SEAL-TITE BAG COMPANY
STI	STIMPSON
STM	SEASTROM MANUFACTURING COMPANY
STP	STACKPOLE
STW	STOCKWELL
SUS	SUNSHINE SCIENTIFIC
SWC	SWITCHCRAFT
SHW	STEWERT-WARNER HOBBS DIVISION
S-B	SPEED BEND
S-E	STEMCO ENGLER
S-F	SYDNEY FRIEDRICH
S-L	SWAGELOCK
S-M	STRIP-MASTER
TAB	THOMAS & BETTS
TAI	TAI CORPORATION
TAN	TANSISTOR
TCC	THOMSON PASSIVE COMPONENTS CORP
TCI	TRA-CON INCORPORATED
TEC	TECKNIT
TEL	TELEFUNKEN
TEM	TEMPIL
TET	TECHNITOOL
TFI	THRUWAY FASTNERS INCORPORATED
THM	THERMALLOY
THS	THREADED SCREW PRODUCTS COMPANY
TII	TEXAS INSTRUMENTS INCORPORATED
TMS	TIMES MICROWAVE SYSTEMS
TRD	TRIAD
TRI	TRI-COUNTY
TRS	TRI-STATE
TRT	TRAVERS TOOL COMPANY
TRW	TRW
TUS	TUSONIX
TXS	TEXAS SPECTRUM
T-P	THOMAS PRODUCTS
UEC	UNITED ELECTRIC
ULI	ULINE
UNC	UNICORP
UN	UNELCO

UNI ..... UNIROYAL
USC ..... USECO
UTI ..... UTICA
V-C ..... VICOR INC.
VIC ..... VICTOREEN
VIT ..... VITRAMON
VLR ..... VLEIR
VOL ..... VOLTRONICS CORPORATION
WAG ..... WAGO COPR
WAK ..... WAKEFIELD
WAL ..... WALDOM
WCO ..... WECO
WEC ..... WESTERN ENTERPRISES COMAPNY
WEI ..... WEICO
WEL ..... WELLER
WES ..... WEINSTEIN
WGV ..... WARREN G-V
WIL ..... WILTRON
WIS ..... WEBER INDUSTRIAL SUPPLY COMPANY
WIT ..... WITTEK DIVISION, A MICRODOT COMPANY
WPI ..... WIRE PRODUCTS INCORPORATED
WPS ..... WORKPLACE SYSTEM
WSC ..... WEST POINT SUPPLY COMPANY
WWP ..... WESTERN WIRE PRODUCTS
W-E ..... WELLS ELECTRONIC INCORPORATED
W-I ..... WEIDMULLER INCORPORATED
W-L ..... WARD LEONARD
XAC ..... X-ACTO
XCA ..... XCELITE
YNG ..... YOUNGS
YPC ..... YARDLEY PRODCTS CORPORATION
ZER ..... ZERO MANUFACTURING COMPANY
ZIE ..... ZIERIC

AMPLIFIER RESEARCH

13:26:39 09 JUN 1998 *** SINGLE LEVEL BILL OF MATERIAL LISTING *** REPORT: E0056 PAGE: 1

BILL NO: 1007752-501M REV: A U/M: EA DRAWING NO:
MDL,MODEL 75A250

SEQ	PART NUMBER	REV	D E S C R I P T I O N	U/M	QUANTITY-PER	DRAWING NUMBER	REF-DSGN
5000	1007750-501	E	MODEL 75A250,10KHZ-250MHZ,75 WATTS	EA	REF	ARC-D\1007750	BOM
5010	1007750	B	ASSY DWG,MODEL 75A250	EA	REF	ARC-D\1007750	R(B)
5020	1007751-501	G	AMP ASSY	EA	REF	ARC-D\1007751	BOM
5030	1007751	F	ASSY DWG,AMP ASSY	EA	REF		R(B)
5040	1007753-501	D	PS ASSY	EA	REF	ARC-D\1007753	BOM
5050	1007753	B	ASSY DWG,PS ASSY	EA	REF	ARC-D\1007753	R(B)
5060	1007756	B	SCHEM DIAG,PWR SUPPLY	EA	REF	ARC-D\1007756	R(B)
5070	1007757-501	D	CTRL PNL ASSY	EA	REF	ARC-D\1007757	R(B)
5080	1007757	C	ASSY DWG,CTRL PNL ASSY	EA	REF	ARC-D\1007757	
5090	1007562	A	ASSY DWG REAR PNL ASSY	EA	REF		R(B)
5100	1007562-501	D	REAR PNL ASSY	EA	REF	ARC-D\1007562	BOM
5110	1007754-501	E	RF ASSY	EA	REF	ARC-D\1007754	BOM
5120	1007754	J	ASSY DWG,RF ASSY	EA	REF	ARC-D\1007754	R(B)
5130	1007866	C	ASSY DWG,ASSY RF BD	EA	REF	ARC-D\1007866	R(B)
5140	1007866-501	E	PWB ASSY,RF	EA	REF	ARC-D\1007866	BOM
5150	1007868	D	SCHEM DIAG,PWB,RF BD	EA	REF	ARC-C\1007868	R(A)
5160	1007870-501	A	RF COMPNT KIT	EA	REF		BOM
5170	1007871-501	F	PWB ASSY,FINAL AMP	EA	REF	ARC-D\1007871	BOM
5180	1007871	G	ASSY DWG,PWB FINAL AMP	EA	REF	ARC-D\1007871	R(B)
5190	1007872	A	SCHEM DIAG,FINAL AMP	EA	REF	ARC-D\1007872	R(B)
5200	1007528-501	A	RF COMP KIT	EA	REF		BOM
5210	1008071-501	B	PWB ASSY,REGULATOR BD	EA	REF	ARC-C\1008071	BOM
5220	1008071	A	ASSY DWG,REG BD	EA	REF	ARC-B\1008071	(B)
5230	1008073	B	SCHEM,DIAG,REGULATOR	EA	REF	ARC-C\1008073	R(A)

*** END OF REPORT E0056 - 13:26:39 09 JUN 1998 ***

AMPLIFIER RESEARCH

13:26:30 09 JUN 1998 *** SINGLE LEVEL BILL OF MATERIAL LISTING *** REPORT: E0056 PAGE: 1

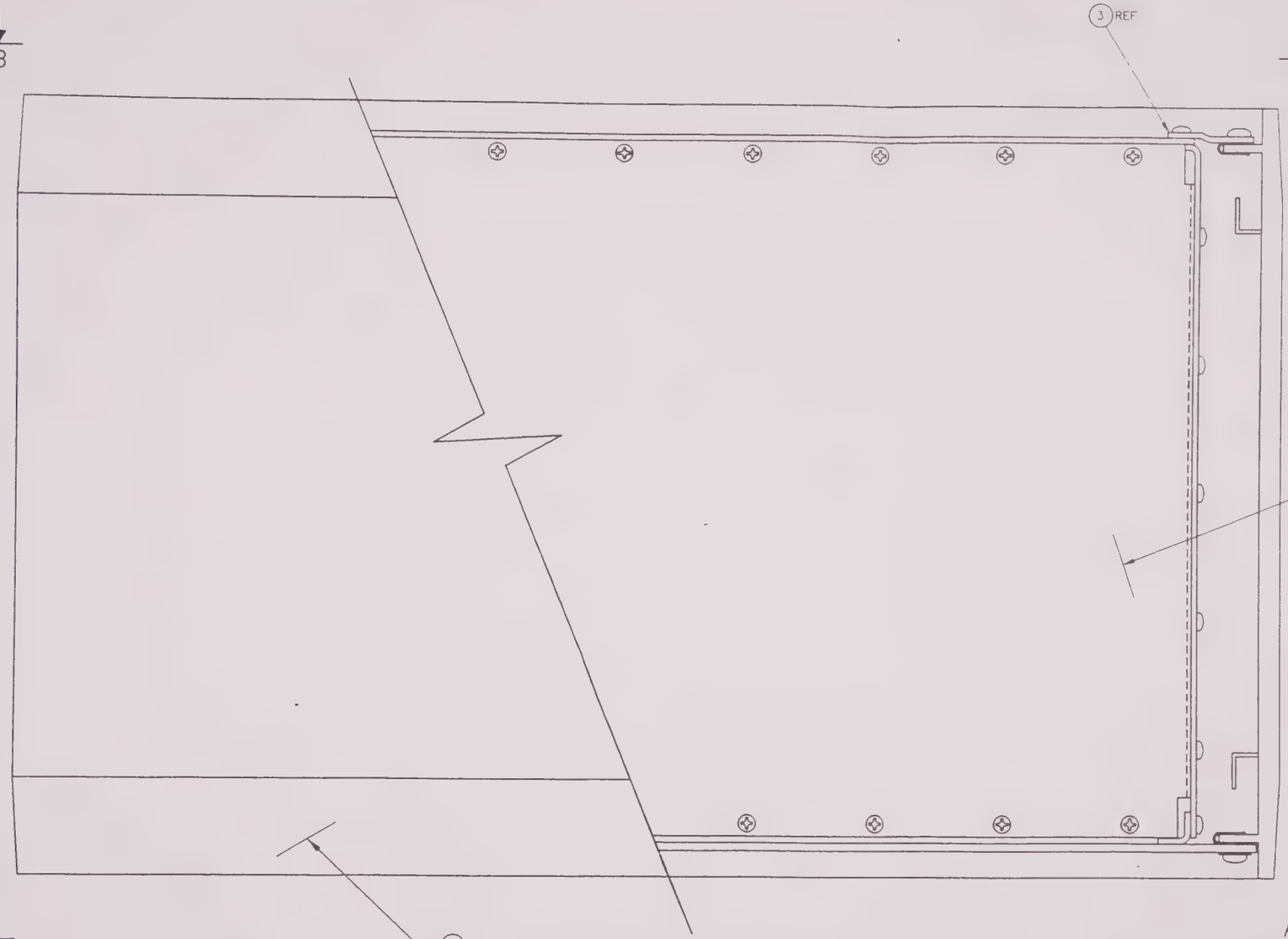
BILL NO: 1007750-501 REV: E U/M: EA DRAWING NO: ARC-D\1007750
MODEL 75A250,10KHZ-250MHZ,75 WATTS

SEQ	PART NUMBER	REV	D E S C R I P T I O N	U/M	QUANTITY-PER	DRAWING NUMBER	REF-DSGN
5000	1001576-311	M	CABINET,INST CASE,PERF 3SIDE PNL,5.25 H,10.8 D	EA	1.000	ARC-B\1001576	1
5010	1007751-501	G	AMP ASSY	EA	1.000	ARC-D\1007751	2
5020	1007220-101	A	BRKT,MTG	EA	2.000	ARC-B\1007220	3
5030	11019		SCREW,MACH,PAN HD,CROSS-REC,S/ZN,6-32X.50,TYPE SW	EA	4.000		4
5040	94027		SCREW,PNL,DECORATIVE,WITH NYLON WASH	EA	8.000	OPM\HW-1	6
5050	14043		FASTENER,"U" TYPE,10B SCREW,PNL RANGE .125-.160	EA	8.000	ECO\C14810-102	7
5060	1007226-101-F1-M54	T	PL,MODEL NO,75A250	EA	1.000	ARC-A\1007226	8
5065	11016		SCREW,MACH,PAN HD,CROSS-REC,S/S,6-32 X .38	EA	7.000	\MS51957-28	9
5070	66147		PWR CORD,3 COND,18AWG,UNIV DTCH	EA	1.000	PAE\C3120-008-BL	
5080	1007752-501		MANUAL,MODEL 75A250	EA	4.000		
5090	12048		WASH,LOCK,SPLIT,S/S,#6	EA	7.000	\MS35338-136	10

ECN	DATE	REV
-	14JUL95	-
RE...	15SEP95	-
80593	6NOV95	A
82500	13NOV95	B

SEE SHT 2 B

B SEE SHT 2



SEE SHT 2 A

A SEE SHT 2

FOR BOM SEE *007750-501

QTY. REQD.	ITEM	PART NO.	DESCRIPTION	MARK	FIN	MATL
		PARTS LIST				

UNLESS OTHERWISE SPECIFIED
DO NOT SCALE DRAWING
DIMENSIONS ARE IN INCHES AND
DECIMAL PLATING THICKNESS
ALL THREADS ARE UNIFIED NATIONAL
SERIES, CLASS 2
REMOVE ALL BURRS AND SHARP
EDGES

BASIC DIMENSIONS	2 PLACE DECIMALS	3 PLACE DECIMALS
UP TO 6	±.02	±.005
ABOVE 6 TO 24	±.03	±.010
ABOVE 24	±.05	±.015

ANGULAR DIMENSIONS ±1°

DRAWN G.JACKSON DATE 10 AUG 95
CHKD G.JACKSON DATE 10 AUG 95
MECH J.MAGINN DATE 20 NOV 95
ELEC M.WOLFGANG DATE 20 NOV 95

AMPLIFIER RESEARCH

MODEL 75A250

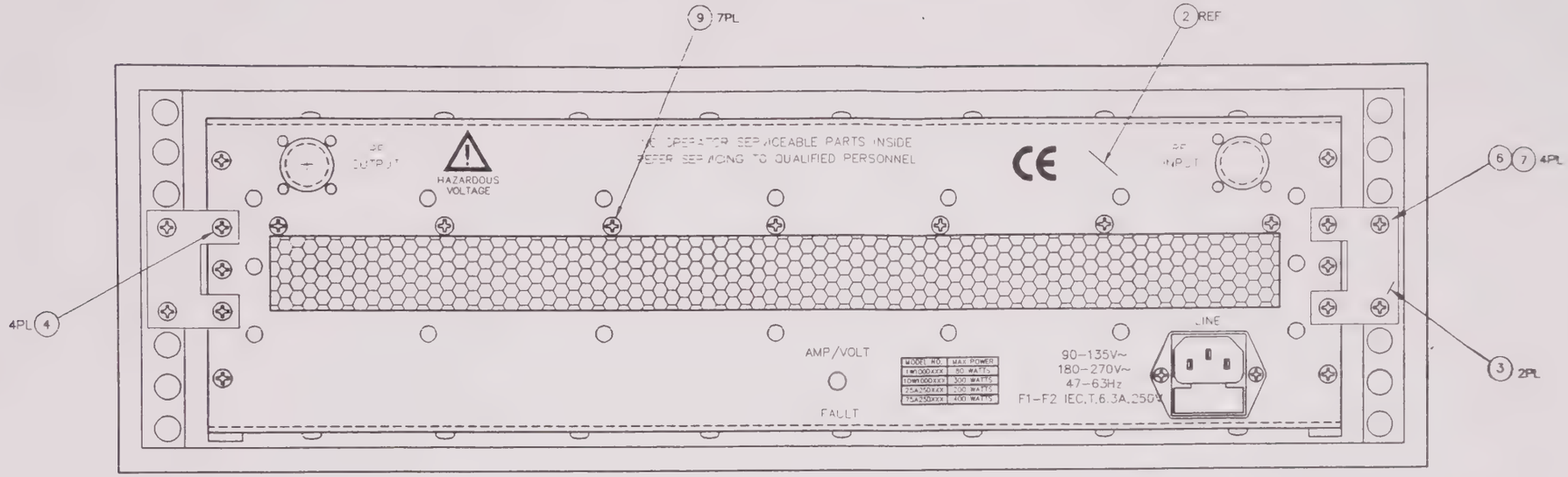
DWG. NO. 1007750

SCALE 1/1 SHEET 1 OF 2 REV SEE REV BLK

75A250 USED ON MODEL

SHEET 1 | 2
REV B | B

ECN	DATE	REV
–	[illegible]	1
RE	[illegible]	–
B0900	[illegible]	A
B0908	[illegible]	B



VIEW B–B

ROTATED 180°

VIEW A–A

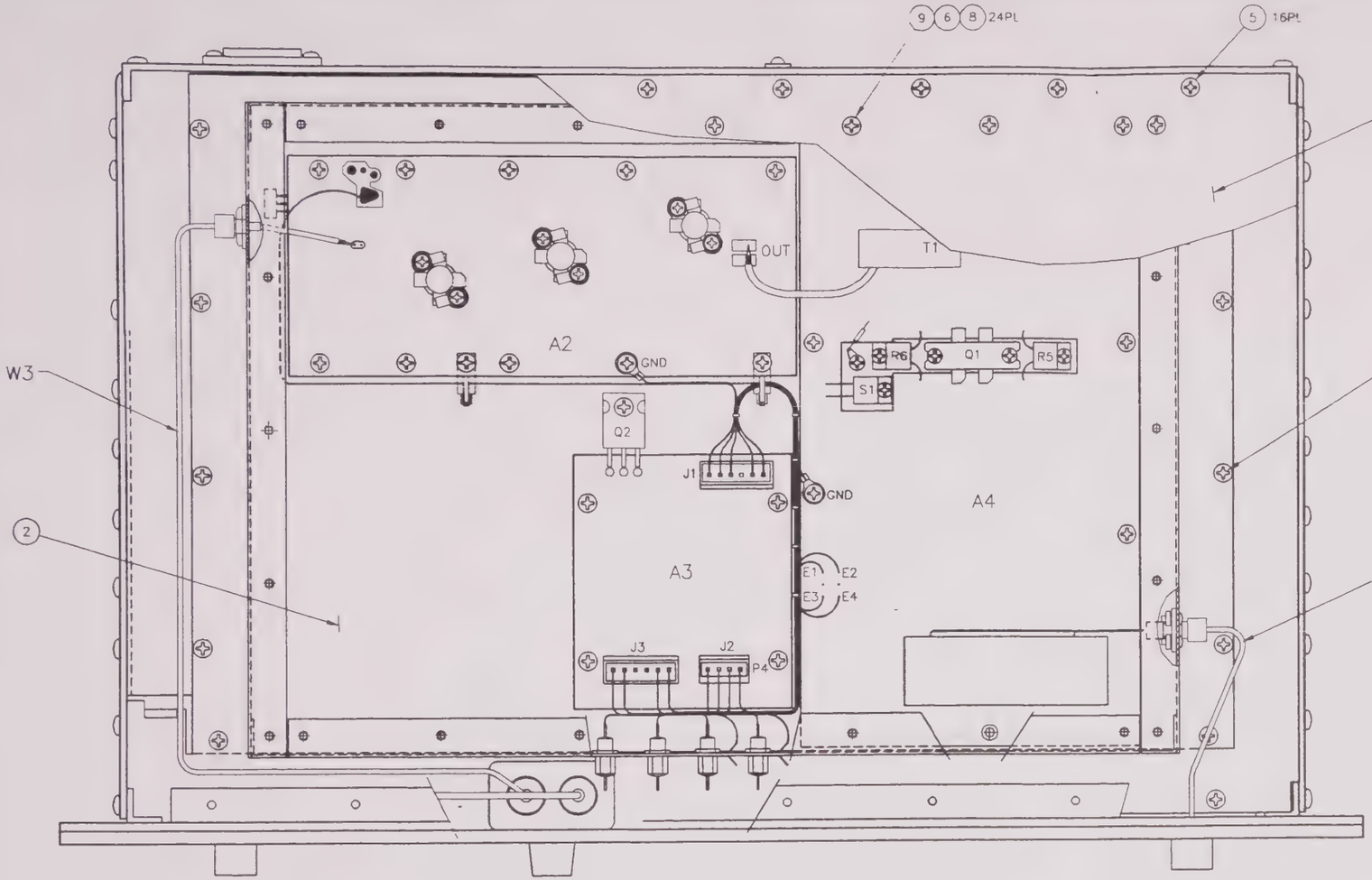
DWG. NO.	
1007750	
SCALE 1/2	SHEET 2 OF –

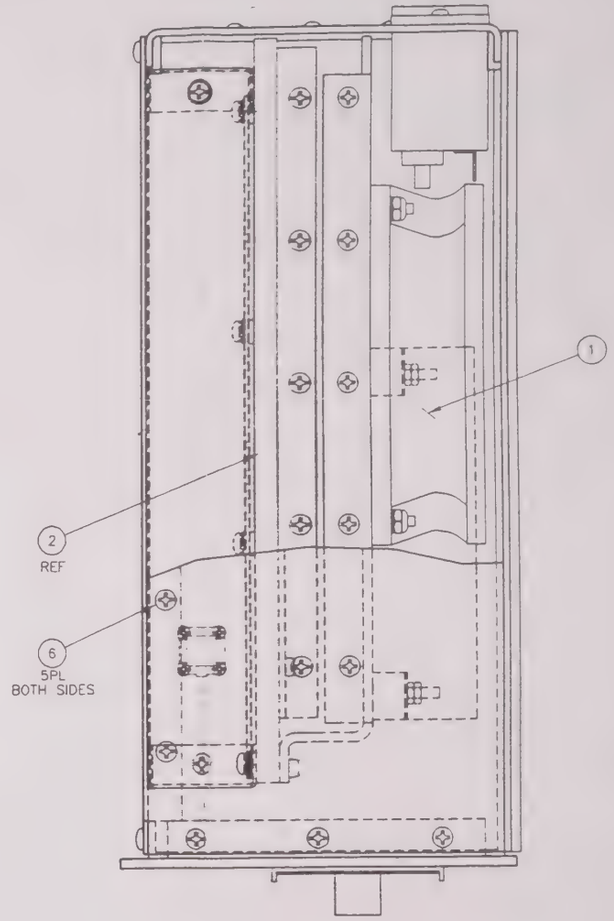
AMPLIFIER RESEARCH

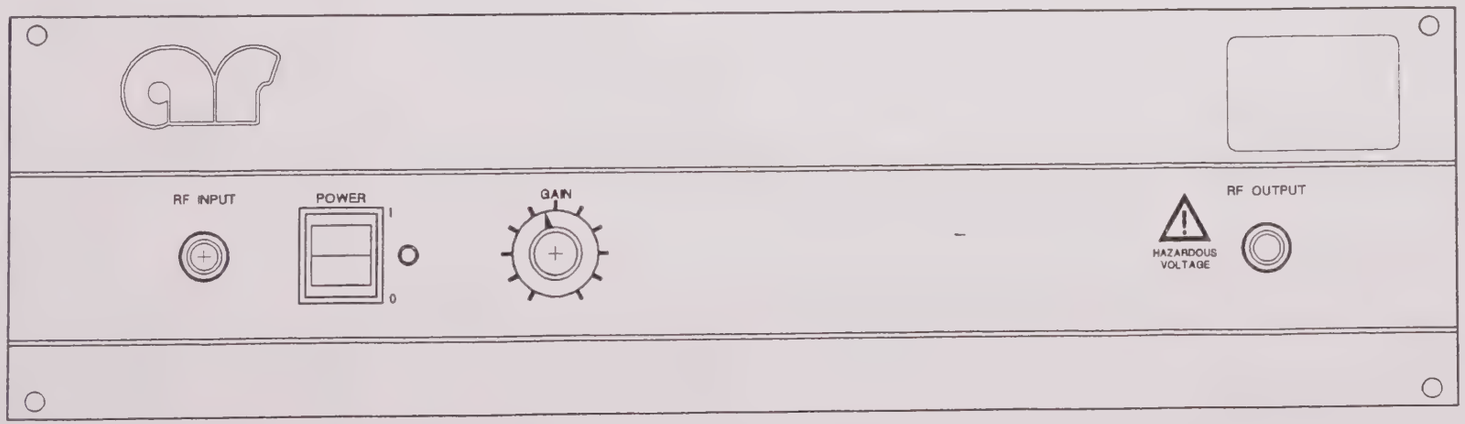
13:26:31 09 JUN 1998 *** SINGLE LEVEL BILL OF MATERIAL LISTING *** REPORT: E0056 PAGE: 1

BILL NO: 1007751-501 REV: G U/M: EA DRAWING NO: ARC-D\1007751
AMP ASSY

SEQ	PART NUMBER	REV	D E S C R I P T I O N	U/M	QUANTITY-PER	DRAWING NUMBER	REF-DSGN
0010	1007918	A	WIRE LIST.75A250	EA	REF	ARC-A\1007918	
4200	20410	-	CABLE ASSY.COAX.SEMI-RIGID.ALUM.BNC.SMA R.A..14.0	EA	1.000	ARC-A\1002494	W3
4210	20412	-	CABLE ASSY.COAX.SEMI-RID.AL.SMA.R.A.PNL.N(F).5.5"	EA	1.000	ARC-A\1002494	W4
5000	1007753-501	D	PS ASSY	EA	1.000	ARC-D\1007753	1
5010	1007754-501	E	RF ASSY	EA	1.000	ARC-D\1007754	2
5020	1008065-501	-	COVER ASSY	EA	1.000	ARC-D\1008065	3
5040	11137		SCREW,MACH.PAN HD.CROSS-REC.S/ZN.6-32X.31.TYPE SW	EA	16.000		5
5050	11016		SCREW,MACH.PAN HD.CROSS-REC.S/S.6-32 X .38	EA	24.000	\MS51957-28	6
5060	11021		SCREW,MACH.PAN HD.CROSS-REC.S/S.6-32 X .62	EA	11.000	\MS51957-31	7
5070	12048		WASH,LOCK.SPLIT.S/S.#6	EA	A/R	\MS35338-136	8
5080	12011		WASH,FLAT.S/S.#6,.312 OD X .156 ID X .035 THK	EA	A/R	\MS15795-805	9







FOR BOM SEE 1007751-501

ITEM	QTY REQD.	PART NO.	DESCRIPTION	MARK	FIND	MAT'L
			PARTS LIST			

UNLESS OTHERWISE SPECIFIED
DO NOT SCALE DRAWING
DIMENSIONS ARE IN INCHES AND INCLUDE PLATING THICKNESS
ALL THREADS ARE UNIFIED NATIONAL SERIES, CLASS 2
REMOVE ALL BURRS AND SHARP EDGES

BASIC DIMENSIONS	2 PLACE DECIMALS	3 PLACE DECIMALS
UP TO 6	±.02	±.005
ABOVE 6 TO 24	±.03	±.010
ABOVE 24	±.05	±.015

ANGULAR DIMENSIONS ±1°

DRAWN G.JACKSON DATE 11 AUG 95
CHK'D G.JACKSON DATE 11 AUG 95
MECH J.MAGINN DATE 20 NOV 95
ELEC M.WOLFGANG DATE 20 NOV 95

AMPLIFIER RESEARCH

AMP ASSY

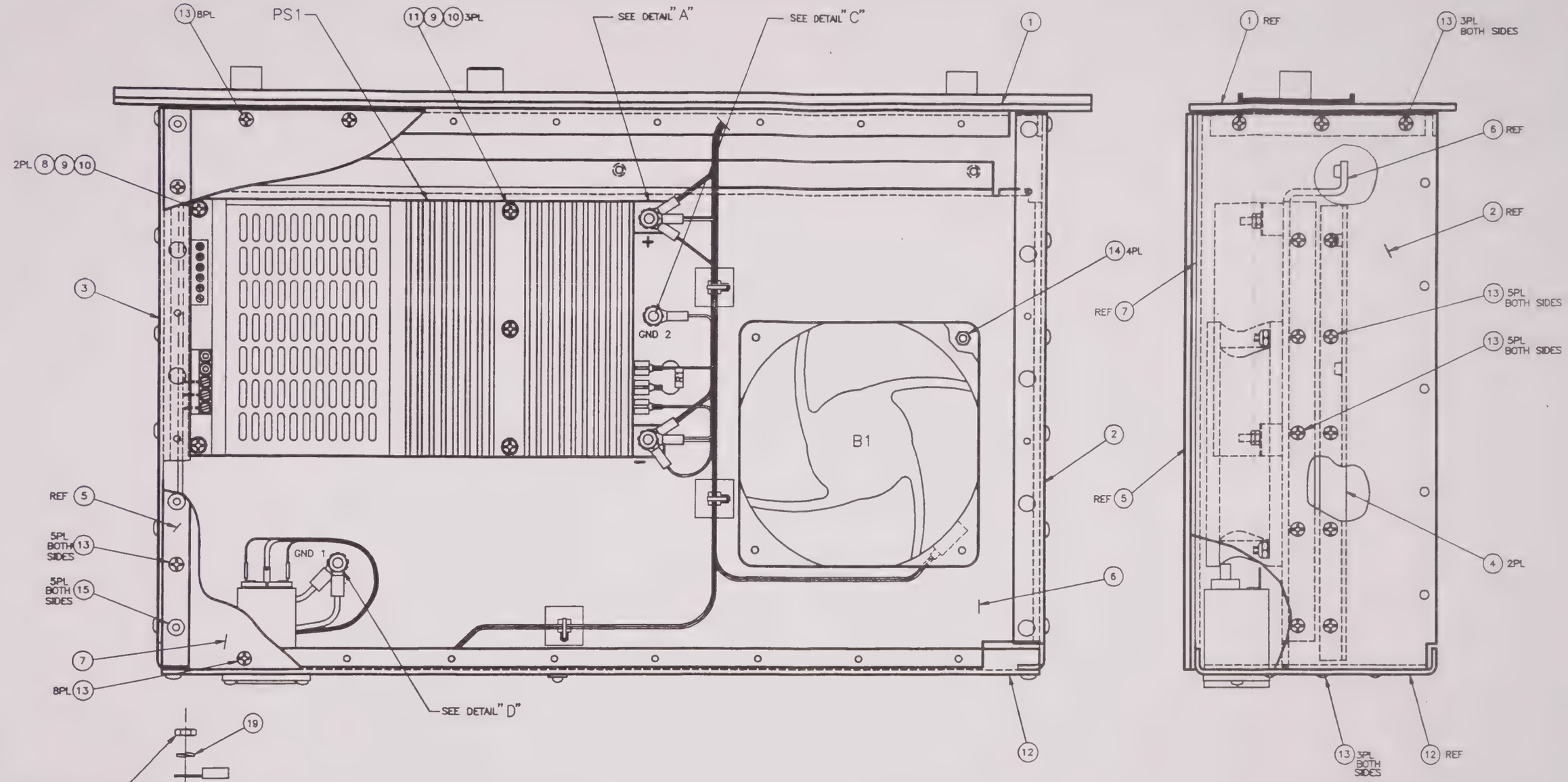
DWG. NO. 1007751

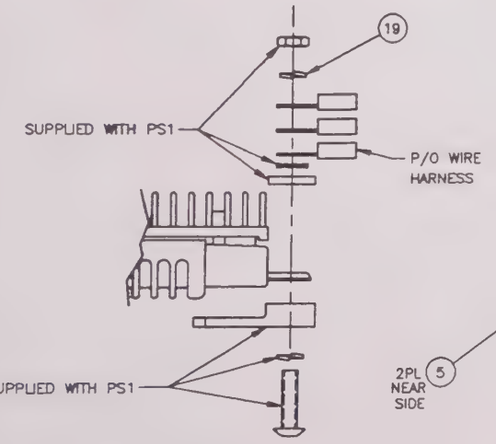
USED ON MODEL

SCALE 1/1 SHEET 1 OF 1 REV F

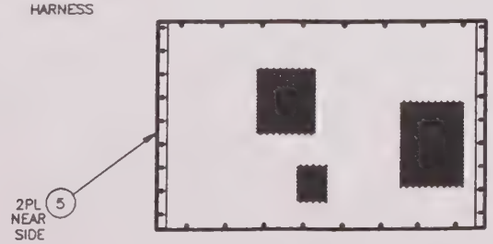
BILL NO: 1007753-501 REV: D U/M: EA DRAWING NO: ARC-D\1007753
PS ASSY

SEQ	PART NUMBER	REV	D E S C R I P T I O N	U/M	QUANTITY-PER	DRAWING NUMBER	REF-DSGN
0010	1007756	B	SCHEM DIAG,PWR SUPPLY	EA	REF	ARC-D\1007756	
0100	1008126-501	-	HARNESS ASSY,PS 75A250	EA	1.000		
0200	37020	-	FAN,AXIAL,24 VDC,106 CFM,	EA	1.000	PAM\4124KX	B1
2400	25049	-	PS,SWNG,28V,400W	EA	1.000	V-C\VI-MAL-EQ	PS1
2700	55612-1804J		RES,FXD,METAL FILM,1.8M,5J,1/4-1/2W	EA	1.000	TRW\GP55-1804+/-5%	R1
5000	1007757-501	D	CTRL PNL ASSY	EA	1.000	ARC-D\1007757	1
5010	1007212-101	B	PNL,SIDE,RT	EA	1.000	ARC-D\1007212	2
5020	1007213-101	B	PNL,SIDE,LEFT	EA	1.000	ARC-D\1007213	3
5030	1007209-301	-	BRKT,SIDE	EA	2.000	ARC-C\1007209	4
5040	1007214-101	-	GLIDE,CABINET	EA	2.000	ARC-B\1007214	5
5050	1007563-301	A	CHASSIS	EA	1.000	ARC-D\1007563	6
5060	1007327-101	B	COVER,BOT	EA	1.000	ARC-D\1007327	7
5070	11133		SCREW,MACH,PAN HD,CROSS-REC,S/S,6-32X.875	EA	2.000	\MS51957-33	8
5080	12011		WASH,FLAT,S/S,#6,.312 OD X .156 ID X .035 THK	EA	5.000	\MS15795-805	9
5090	12048		WASH,LOCK,SPLIT,S/S,#6	EA	5.000	\MS35338-136	10
5100	11156		SCREW,MACH,PAN HD,CROSS REC,S/S,6-32 X1.38	EA	3.000		11
5110	1007562-501	D	REAR PNL ASSY	EA	1.000	ARC-D\1007562	12
5120	11137		SCREW,MACH,PAN HD,CROSS-REC,S/ZN,6-32X.31,TYPE SW	EA	58.000		13
5130	13024		NUT,SELF-LOCK,HEX,REG HT,NYLON INSERT,S/S,4-40	EA	4.000	\MS21044C04	14
5140	69120		RIVET,GRIP-TITE,A,1/8"DIA,1/8-1/4"MAT'L THK	EA	10.000	GRA\5X520	15
5160	13007		NUT,HEX,S/S,10-32,.343AF	EA	A/R		17
5170	12059		WASH,LOCK,EXT TOOTH,S/S,#10	EA	A/R	\MS35335-60	18
5180	12050		WASH,LOCK,SPLIT,S/S,#10	EA	4.000	\MS35338-138	19

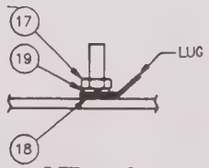




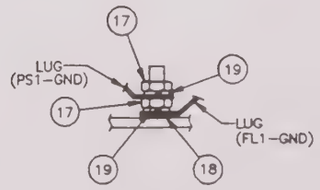
DETAIL A
TYP 2 PLACES



GLIDES TO BE PLACED ON PANEL AS SHOWN



DETAIL C

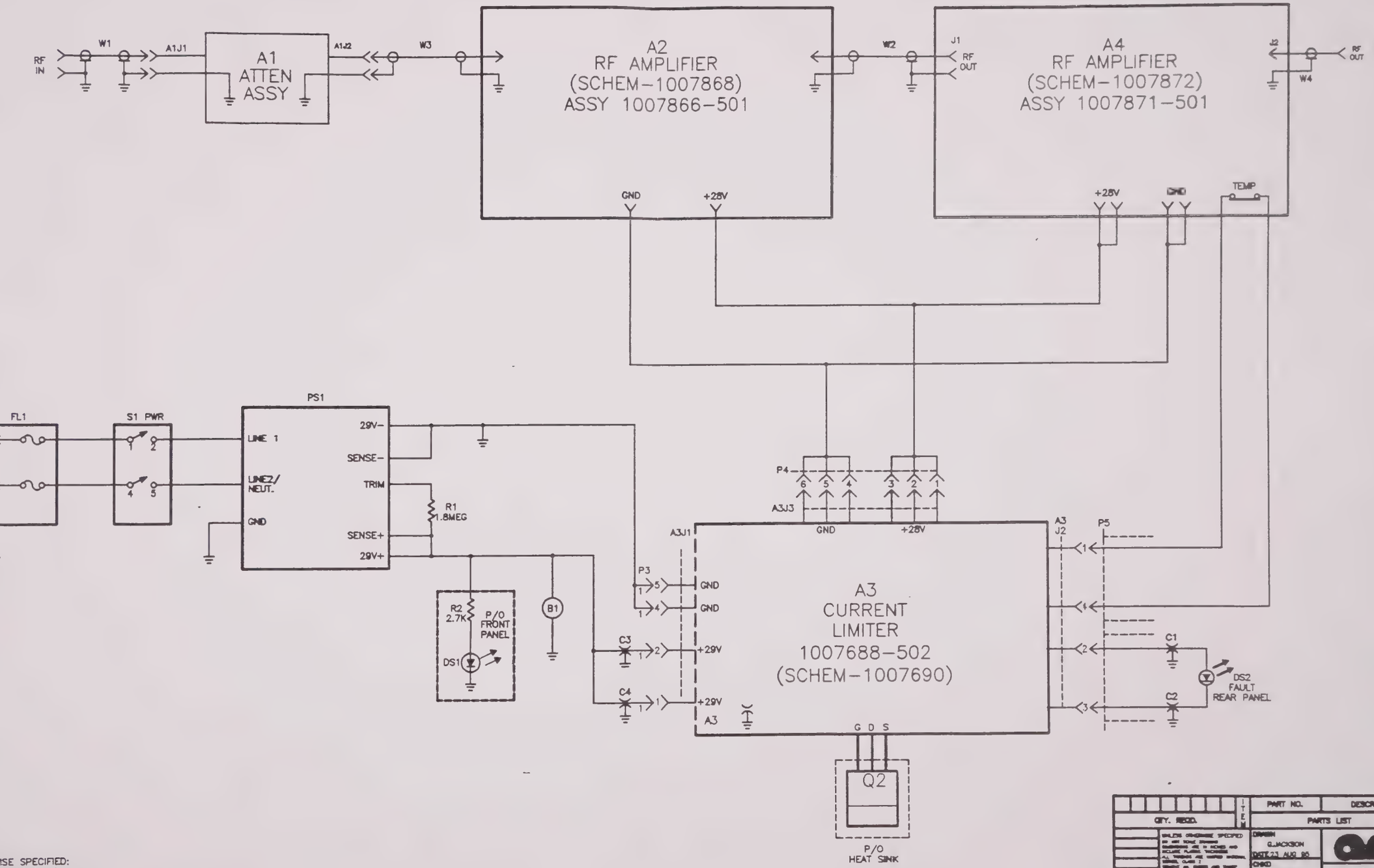


DETAIL D

FOR BOM SEE 1007753-501

ITEM QTY. REQD.	PART NO. / DESCRIPTION — PARTS LIST	MAT'L
75A290 USED ON MODEL	DRWN G.JACKSON DATE 11 AUG 95; CHKD G.JACKSON DATE 11 AUG 95; MECH J.MAGINN DATE 10 SEP 95; ELEC M.WOLFGANG DATE 10 SEP 95	PS ASSY; DWG. NO. 1007753; SCALE 1/1; SHEET 1 OF 1; REV B

UNLESS OTHERWISE SPECIFIED DO NOT SCALE DRAWING REMOVE ALL BURRS AND SHARP EDGES



NOTES:

1.0 UNLESS OTHERWISE SPECIFIED:
RESISTOR VALUES ARE OHMS.
RESISTOR RATINGS ARE 1/4 WATT.
CAPACITOR VALUES ARE MICROFARADS.

ITEM	QTY. REQD.	PART NO.	DESCRIPTION	MAT	FIN	MAT
			PARTS LIST			

DRAWN G.JACKSON DATE 23 AUG 95
CHKD G.JACKSON DATE 23 AUG 95
MECH J.MAGINN DATE 20 NOV 95
ELEC M.WOLFGANG DATE 18 NOV 95

75A250
USED ON MODEL

AMPLIFIER RESEARCH

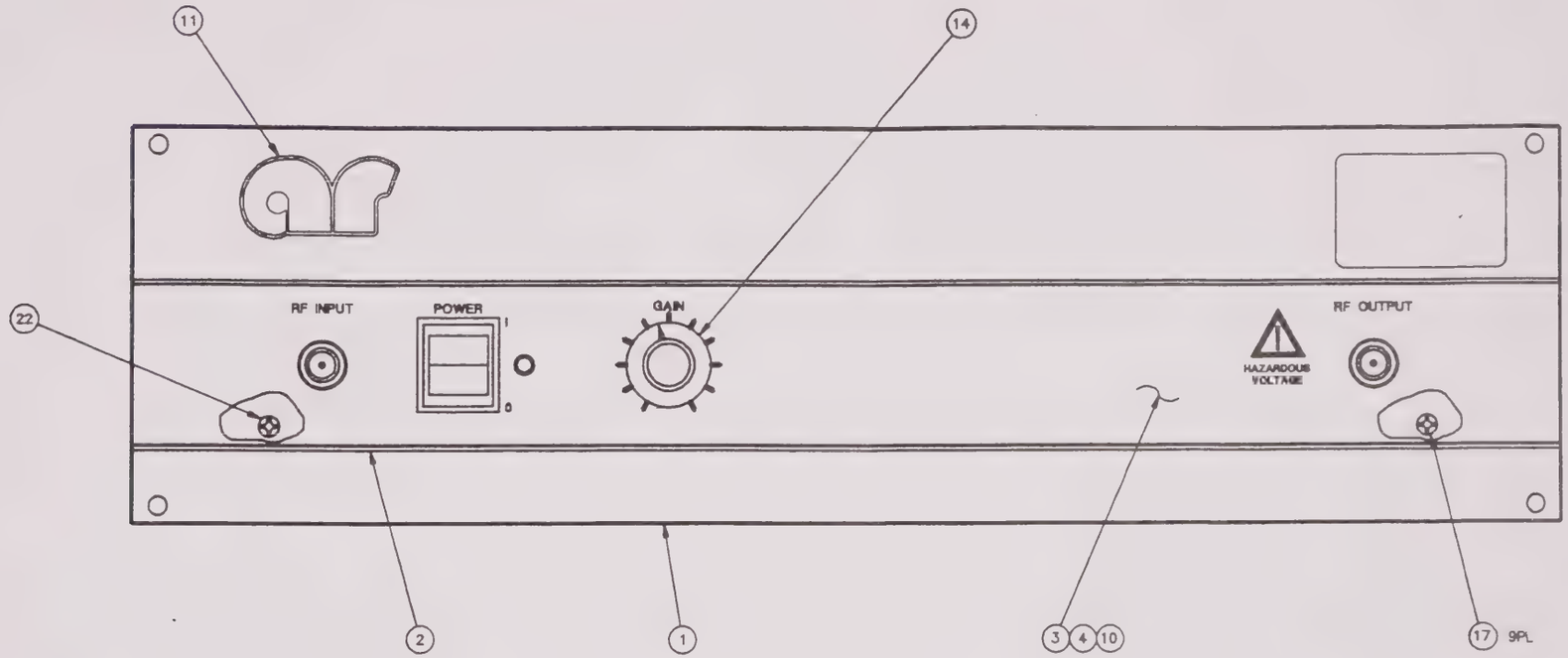
SCHEMATIC DIAGRAM
POWER SUPPLY

DWG. NO. 1007756

SCALE NONE SHEET 1 OF 1 REV B

BILL NO: 1007757-501 REV: D U/M: EA DRAWING NO: ARC-D\1007757
CTRL PNL ASSY

SEQ	PART NUMBER	REV	D E S C R I P T I O N	U/M	QUANTITY-PER	DRAWING NUMBER	REF-DSGN
0100	1000146-301	E	ATTEN ASSY	EA	1.000	ARC-B\1000146	A1
1000	33005		LED,GRN,T1 3/4(5mm)	EA	1.000	H-P\HLMP-3507-009	DS1
2710	55612-2701J		RES,FXD,METAL FILM,2.7K,5%,1/4-1/2W	EA	1.000	TRW\GP55-2701+/-5%	R1
3100	57085	-	SW,ROCKER,NON-LIGHTED,DPST,BLK	EA	1.000	CAR\RGSEC701RBB0	S1
4200	20299	A	CABLE ASSY,COAX,RG-142B/U,N(F),BNC(M),8.0"	EA	1.000	ARC-A\1002494	W1
5000	1007235-301-F1	D	PNL,CTRL	EA	1.000	ARC-D\1007235	1
5010	1007236-101-F2	A	CHANNEL,TRIM	EA	1.000	ARC-D\1007236	2
5020	1007558-101-F6-M1	-	PNL,TRIM	EA	1.000	ARC-D\1007558	3
5030	69241		TAPE,TRANSPARENT,ACRYLIC ADH,2 SIDES,.004 THK	IN A/R		CMP\M69	4
5050	12048		WASH,LOCK,SPLIT,S/S,#6	EA	11.000	\MS35338-136	6
5060	13004		NUT,HEX,S/S,6-32,.250AF	EA	11.000		7
5070	12011		WASH,FLAT,S/S,#6,.312 OD X .156 ID X .035 THK	EA	1.000	\MS15795-805	8
5080	69175		MTG TAB,NAT'L COLOR NYLON,21/32 O/A,3/8 W	EA	1.000	PLM\A-30-167	9
5090	77067		ADH,CLEAR,RTV,1 TOUCH	OZ A/R		G-E\GE108	10
5100	1006658-101	A	LOGO,DIECAST,1.00	EA	1.000	ARC-B\1006658	11
5110	14048	-	FASTENER,PALNUT,WASH TYPE,SELF THDG,.125 DIA	EA	2.000	MCS\90533A131	12
5120	69161		CABLE TIES,1 3/8 MAX BUNDLE DIA,5 5/8 L	EA A/R		PNT\PLT1.5MP	13
5130	69018		KNOB,SKIRTED,1/8"SHAFT,MATTE FINISH	EA	1.000	ROG\MF-RB-67-0SK7M	14
5160	11065		SCREW,MACH,FLT HD,100 DEG,CROSS-REC,S/S,6-32 X .50	EA	9.000	\MS24693-C28	17
5170	69098		LUG,SHAKEPROOF,23/32 L,#6 STUD,DUAL HOLE	EA	2.000	HHS\1413-6	18
5180	69157		TERM,INSUL,STANDOFF,6-32 THD	EA	2.000	USC\1417-4-5	19
5190	13003		NUT,HEX,S/S,4-40,.187AF	EA	8.000		20
5200	12047		WASH,LOCK,SPLIT,S/S,#4	EA	8.000	\MS35338-135	21
5210	11127		SCREW,MACH,FLT HD,100 DEG,CROSS-REC,S/S,6-32 X .62	EA	1.000		22



FOR BOM SEE 1007757-501

SHEET	1	2
REV	C	C

QTY. REQD.	ITEM	PART NO.	DESCRIPTION	MARK	FIN	MAT'L
	501		PARTS LIST			

UNLESS OTHERWISE SPECIFIED
DO NOT SCALE DRAWING
DIMENSIONS ARE IN INCHES AND INCLUDE PLATING THICKNESS
ALL THREADS ARE SINGLE MINIMUM MEDIUM CLASS 2
REMOVE ALL BURRS AND SHARP EDGES

BASIC DIMENSIONS	2 PLACE DECIMALS	3 PLACE DECIMALS
UP TO 6	±.02	±.005
OVER 6 TO 24	±.05	±.010
OVER 24	±.08	±.015
ANGULAR DIMENSIONS ±1°		

DRAWN S.JACKSON DATE 1 AUG 95
CHKD S.JACKSON DATE 1 AUG 95
APVD J.ANDERSON DATE 2 AUG 95
MFG APVD S.MCCLATCHEY DATE 2 AUG 95

75A250
USED ON MODEL

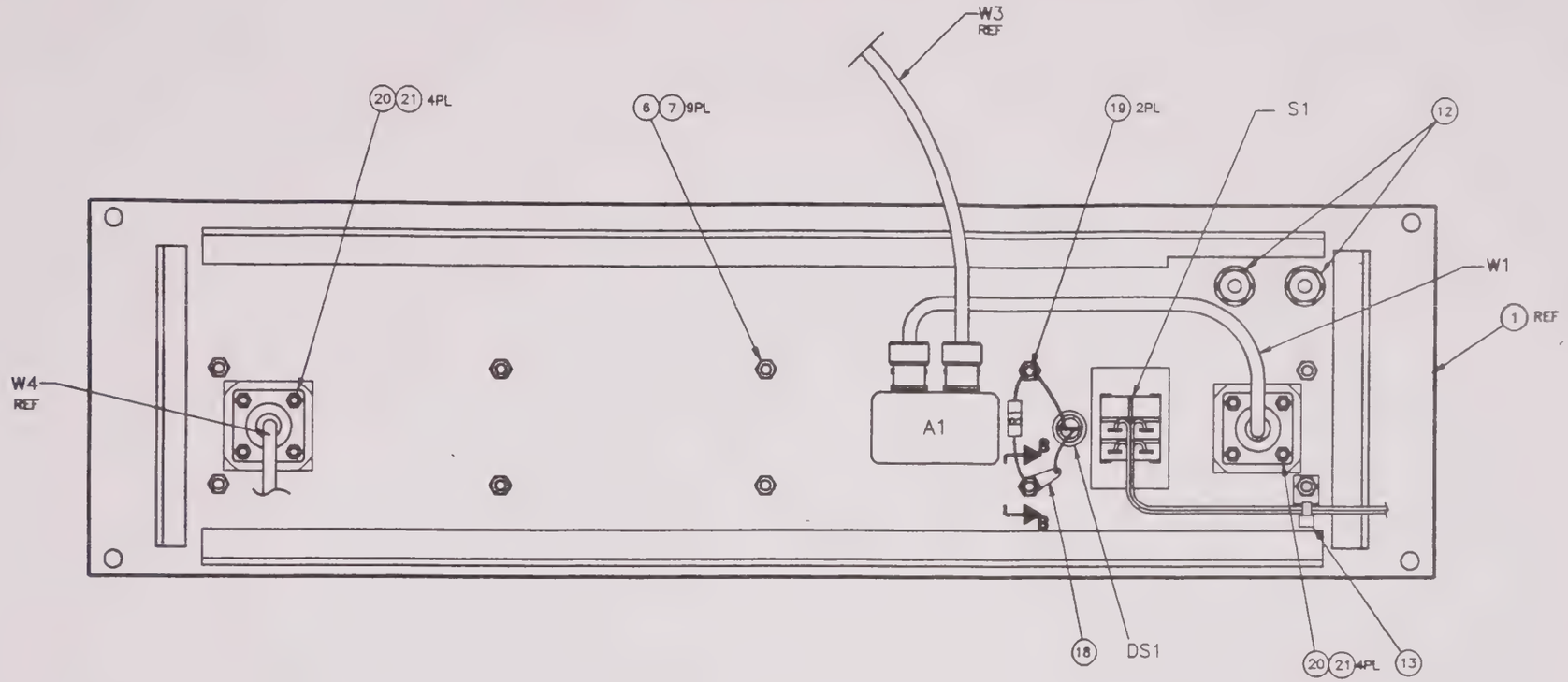
AMPLIFIER RESEARCH

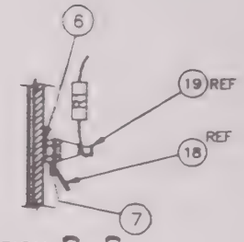
CONTROL PANEL ASSY

1007757

SCALE 1/1 SHEET 1 OF 2

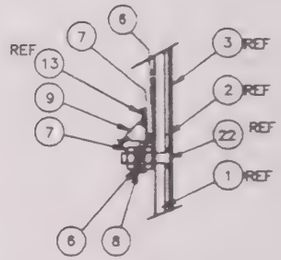
REV C





SECTION B-B

2 PLACES



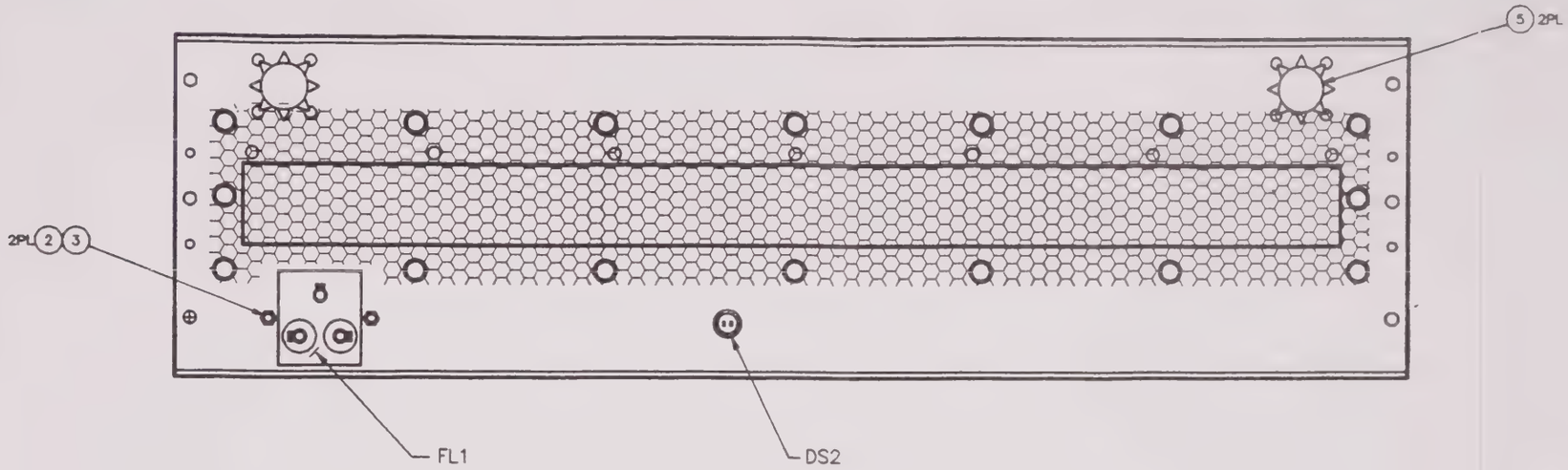
SECTION C-C

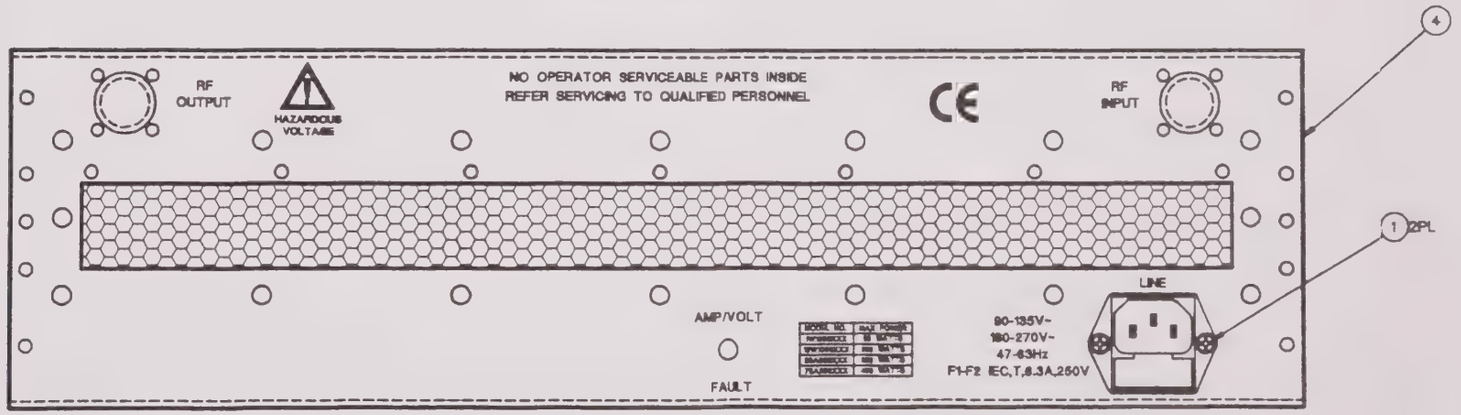
1PL

1007757

BILL NO: 1007562-501 REV: D U/M: EA DRAWING NO: ARC-D\1007562
REAR PNL ASSY

SEQ	PART NUMBER	REV	D E S C R I P T I O N	U/M	QUANTITY-PER	DRAWING NUMBER	REF-DSGN
1000	33003		LED,RED,T1 3/4(5mm)	EA	1.000	H-P\HLMP-3001-009	DS2
1300	35082		FUSE,SLO BLO,TYPE T,METRIC,6.3A,250V	EA	2.000	LIF\21806.3	F1 ,F2
1400	35083		FILT,LINE,6A,VDE,FUSED	EA	1.000	COR\6EGG1-2	FL1
5000	11103		SCREW,MACH,FLT HD,100 DEG,CROSS-REC,S/S,4-40X.50	EA	2.000	\MS24693-C6	1
5010	12047		WASH,LOCK,SPLIT,S/S,#4	EA	2.000	\MS35338-135	2
5020	13003		NUT,HEX,S/S,4-40,.187AF	EA	2.000		3
5030	1007565-301-M1	A	PNL,REAR	EA	1.000	ARC-D\1007565	4
5040	69111		PLUG,HOLE,METAL,5/8"DIA HOLE,13/16"O/A DIA	EA	2.000	HHS\654	5





FOR BOM SEE 1007562-501

ITEM	QTY. REQD.	PART NO.	DESCRIPTION	MARK	FIN	MATL
		PARTS LIST				

UNLESS OTHERWISE SPECIFIED
DO NOT SCALE DRAWING
DIMENSIONS ARE IN INCHES AND INCLUDE PLATING THICKNESS
ALL THREADS ARE UNIFIED NATIONAL STANDARD CLASS 2
REMOVE ALL BURRS AND SHARP EDGES

BASIC DIMENSIONS	2 PLACE DECIMALS	3 PLACE DECIMALS
UP TO 6	±.02	±.005
ABOVE 6 TO 24	±.05	±.010
ABOVE 24	±.09	±.015

ANGULAR DIMENSIONS ±1°

1W1000A
2W1250A
10W10006
USED ON
MODEL

DRWN G.JACKSON DATE 19 MAY 95
CHKD G.JACKSON DATE 19 MAY 95
MECH J.WAGMAN DATE 7/12/95
ELEC M.WOLFGANG DATE 6-28-95

ENI POWER RESEARCH

REAR PANEL ASSY

SIZE DWG. NO. 1007562

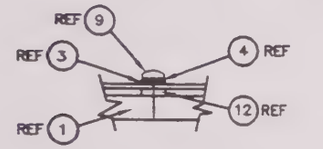
SCALE 1/2 WT. SHEET 1 OF 1 REV A

BILL NO: 1007754-501 REV: E U/M: EA DRAWING NO: ARC-D\1007754
RF ASSY

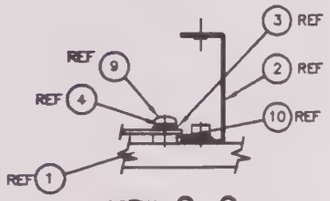
SEQ	PART NUMBER	REV	D E S C R I P T I O N	U/M		QUANTITY-PER	DRAWING NUMBER	REF-DSGN
0100	1008026-501	-	HARNESS ASSY,RF 75A250	EA		1.000		
0110	1007866-501	E	PWB ASSY,RF	EA		1.000	ARC-D\1007866	A2
0120	1007870-501	A	RF COMPNT KIT	EA		1.000		A2
0130	1008071-502	B	PWB ASSY,REG BD	EA		1.000	ARC-B\1008071	A3
0140	1007871-501	F	PWB ASSY,FINAL AMP	EA		1.000	ARC-D\1007871	A4
0150	1007528-501	A	RF COMP KIT	EA		1.000		A4
0400	27100		CAPR,FEED-THRU,FILT,.004UF,500V	EA		4.000	TXS\FR3-50	C1 ,C2 C3 ,C4
2500	54551		XSTR,MOSFET,100V,41A	EA		1.000	I-R\IFRP150	Q2
4210	20409	-	CABLE ASSY,COAX,SEMI-RIGID,ALUM,SMA PNL,2.50	EA		1.000	ARC-A\1002494	W5
5000	1007758-301	C	HEATSINK ASSY	EA		1.000	ARC-D\1007758	1
5010	1007957-301	-	SHIELD,WALL	EA		2.000	ARC-D\1007957	2
5020	12011		WASH,FLAT,S/S,#6,.312 OD X .156 ID X .035 THK	EA		25.000	\MS15795-805	3
5030	12048		WASH,LOCK,SPLIT,S/S,#6	EA	A/R		\MS35338-136	4
5040	11011		SCREW,MACH,PAN HD,CROSS-REC,S/S,4-40 X .38	EA		12.000	\MS51957-15	5
5050	12047		WASH,LOCK,SPLIT,S/S,#4	EA		10.000	\MS35338-135	6
5060	77064		COMPOUND,THERMAL JOINT,TYPE 120	OZ	A/R		WAK\120-S	7
5070	1007956-301	A	SHIELD,WALL	EA		2.000	ARC-D\1007956	8
5080	11020		SCREW,MACH,PAN HD,CROSS-REC,S/S,6-32 X .50	EA		25.000	\MS51957-30	9
5090	12022		WASH,FLAT,B/ZINC PLTG,.312 OD X .164 ID X .060	EA		10.000	UNC\S-781-M01F05AG	10
5100	69161		CABLE TIES,1 3/8 MAX BUNDLE DIA,5 5/8 L	EA	A/R		PNT\PLT1.5MP	11
5110	12023		WASH,FLAT,B/ZN PLTG,.312 OD X .141 ID X .093 THK	EA		14.000	UNC\S-783-M01F05AG	12
5120	69289		LUG,SOLDER,11/16 L,17/64 W,.120 DIA HOLE (#4)	EA		6.000	KEY\7325	13
5140	69371	-	INSULATOR,KAPTON	EA		1.000	BRG\K-10-90	15
5150	11149		SCREW,CAP,SOCKET HD,S/S,6-32X.38	EA		25.000		16

BILL NO: 1007754-501 REV: E U/M: EA DRAWING NO: ARC-D\1007754
RF ASSY

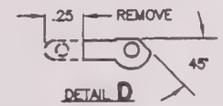
SEQ	PART NUMBER	REV	D E S C R I P T I O N	U/M	QUANTITY-PER	DRAWING NUMBER	REF-DSGN
5170	69235		LUG,SOLDER 1/4 MTG HOLE	EA	4.000	STM\5413-1	18
5180	11099		SCREW,MACH,PAN HD,CROSS-REC,S/S,2-56 X .25	EA A/R		\MS51957-3	19
5190	12005		WASH,LOCK,SPLIT,S/S,#2	EA	8.000	\MS35338-134	20
5200	13014		NUT,HEX,S/S,2-56,..187AF	EA	8.000		21
5210	12066		WASH,CONICAL,STL,.250 OD,X .125 ID,X .020	EA	2.000	SEA\5808-73-20	22
5220	69175		MTG TAB,NAT'L COLOR NYLON,21/32 O/A,3/8 W	EA A/R		PLM\A-30-167	23
5230	1000643-101	C	CORE,FERRITE,SLV,Q1	EA	1.000	ARC\1000643	24
5240	77067		ADH,CLEAR,RTV,1 TOUCH	OZ A/R		G-E\GE108	25
5250	11016		SCREW,MACH,PAN HD,CROSS-REC,S/S,6-32 X .38	EA A/R		\MS51957-28	26



SECTION A–A

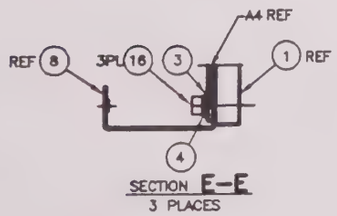


VIEW C–C

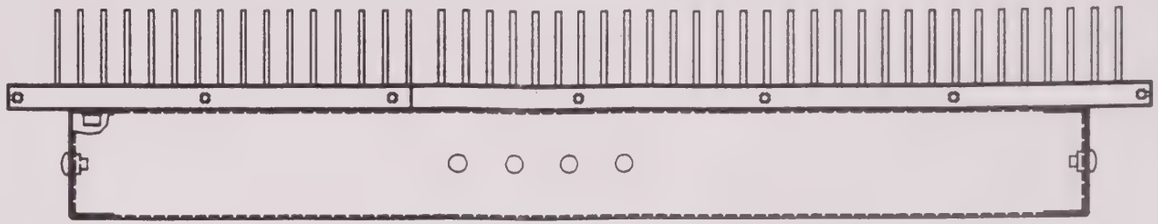


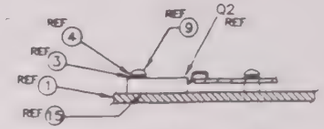
DETAIL D
6 PLACES

TRIM LUG, (13) TO DIM SHOWN

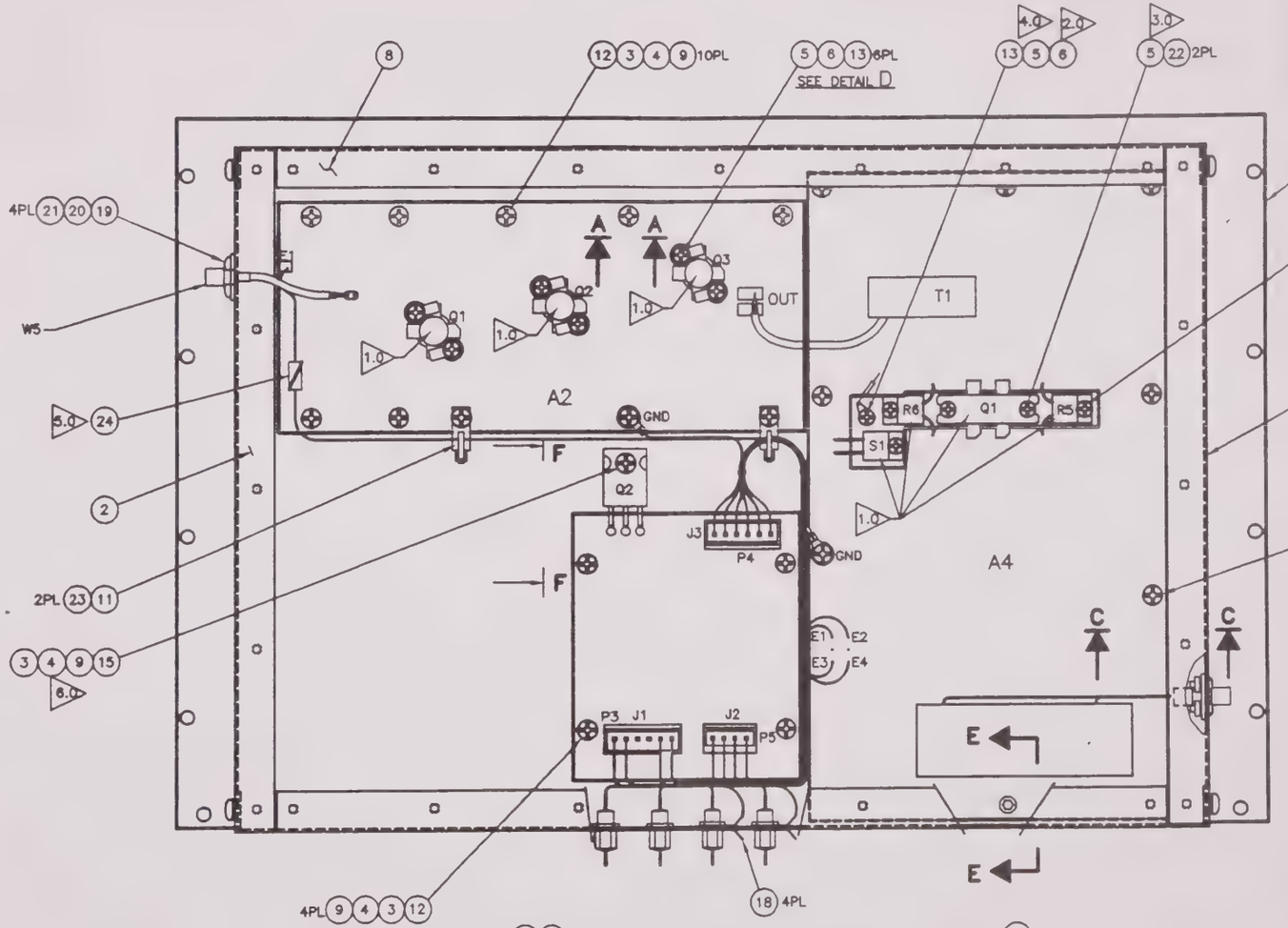


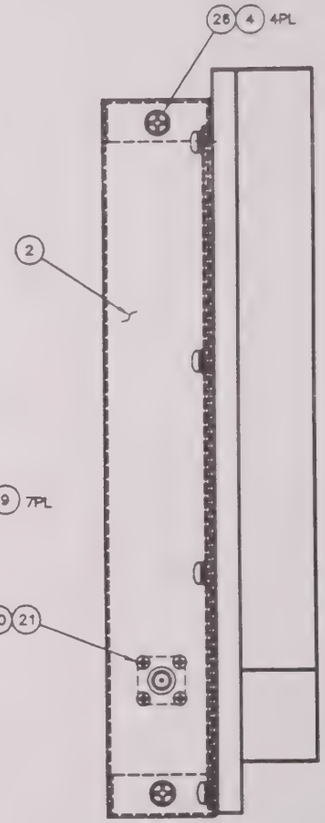
SECTION E–E
3 PLACES

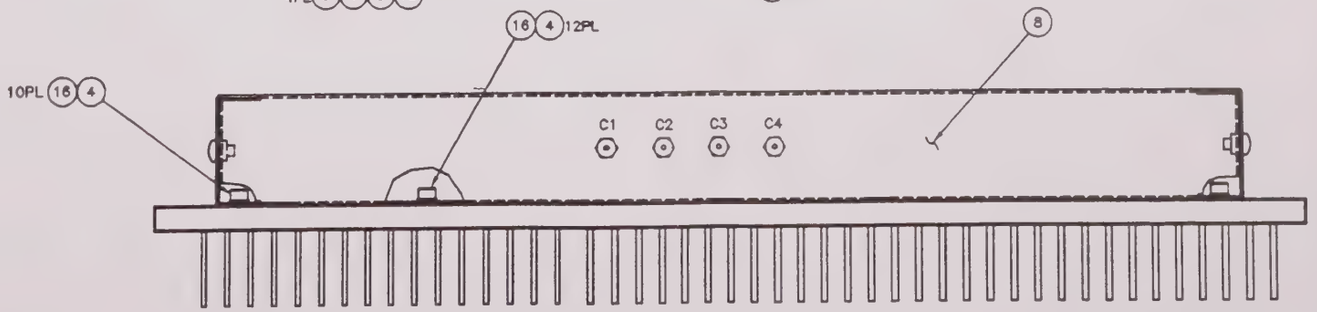




SECTION F–F







NOTES:

1.0 SPREAD THERMAL COMPOUND ITEM (7) ON UNDERSIDE OF COMPONENTS. IAW WORKMANSHIP PRACTICE WP-D016.

2.0 SOLDER FREE END OF DIODE TO SOLDER LUG.

3.0 TORQUE SCREW TO 4.5 INCH-POUNDS, THEN TIGHTEN SCREW ONE ADDITIONAL 1/4 TURN.

4.0 CUT TAB OF ITEM (13) IN HALF PRIOR TO INSTALLATION.

5.0 WIND 2 TURNS THRU ITEM (24) AND SECURE TO PCB WITH ITEM (25)

6.0 TORQUE SCREW TO 22.0 INCH-POUNDS.

SEE BOM 1007754-501

QTY. REQD.	ITEM	PART NO.	DESCRIPTION	MAT
		PARTS LIST		

DRAWN G.JACKSON DATE 7 JUN 95
CHKD G.JACKSON DATE 7 JUN 95
MECH J.MAGINN DATE 20/11/95
ELEC M.WOLFGANG DATE 20/11/95

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETRES AND TOLERANCES ARE: 2 PLACE DECIMALS ±0.25, 3 PLACE DECIMALS ±0.127, ANGULAR ±0.5°

BASIC DIMENSIONS	2 PLACE DECIMALS	3 PLACE DECIMALS
UP TO 6	±0.25	±0.200
OVER 6 UP TO 30	±0.25	±0.200
OVER 30 UP TO 120	±0.25	±0.200

MATERIAL THICKNESS 1.57

RF ASSY

DWG. NO. 1007754

SCALE 1/1 SHEET 1 OF 1 REV J

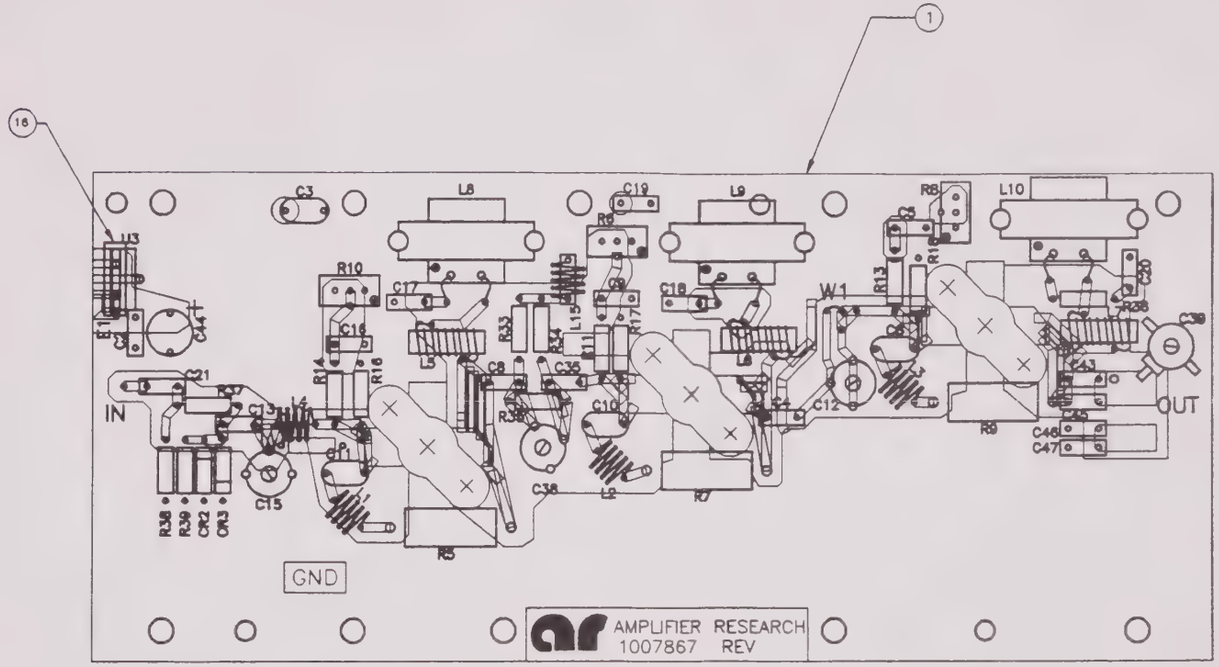
BILL NO: 1007866-501 REV: E U/M: EA DRAWING NO: ARC-D\1007866
PWB ASSY,RF

SEQ	PART NUMBER	REV	D E S C R I P T I O N	U/M	QUANTITY-PER	DRAWING NUMBER	REF-DSGN
0010	1007868	D	SCHEM DIAG,PWB,RF BD	EA	REF	ARC-C\1007868	
0020	1007866	C	ASSY DWG,ASSY RF BD	EA	REF	ARC-D\1007866	
0420	27210		CAPR,CER,0.22uF,50V	EA	4.000	CRL\CW30C224K	C3 ,C6 C10 ,C11
0430	27229		CAPR,CER,2.2uF,50V	EA	18.000	\RPE210Z5U225Z050V	C2 ,C4 C5 ,C8 C9 ,C13 C16 ,C17 C18 ,C19 C20 ,C21 C26 ,C35 C43 ,C45 C46 ,C47
0450	27128		CAPR,VAR,2-18PF,250V	EA	4.000		C15 ,C12 C38 ,C39
0460	27260		CAPR,ELECT,1000uf,35V	EA	1.000	MAL\SKR102M1VJ21V	C44
0700	1N4448		DIODE,SIGNAL,75V PIV	EA	2.000	FCH\1N4448	CR2 ,CR3
1800	49032	-	INDUCTOR,AIR,WOUND,012-04-04R2-B03-22-2	EA	2.000	ARC\1002503	L1 ,L3
1810	49085	-	INDUCTOR,AIR WOUND,012-04-03R2-B03-22-2	EA	1.000	ARC\1002503	L2
1820	49033	-	INDUCTOR,AIR,WOUND,012-04-01R2-B03-22-2	EA	1.000	ARC\1002503	L4
1830	49162	-	INDUCTOR,CORE,023-61ZX1-10-24-2-1	EA	3.000	ARC\1002497	L5 ,L6 L7
1840	39006		CHOKE,HICOIL,1.4mH,1A	EA	3.000	HIM\7HP0122A	L8 ,L9 L10
1850	49298	-	IND,AIR WOUND,012-04-06R2-B03-22-2	EA	1.000	ARC\1002503	L15
2220	60024		INTEGRATED CKT,LINEAR,POS.REG.,15V	EA	1.000	NSI\LM340T-15	U3
2730	55514-3300J		RES,FXD,CARBON COMP,330,5%,1W	EA	1.000		R5
2740	55917		RES,VAR,CERMET,MULTITURN,TOP ADJ,1K,10%,1W	EA	3.000	MEP\RJ24FW102	R6 ,R8 R10
2745	55514-1800J		RES,FXD,CARBON COMP,180,5%,1W	EA	1.000		R9
2746	55514-2200J		RES,FXD,CARBON COMP,220,5%,1W	EA	1.000	A-B\GB2215	R7

BILL NO: 1007866-501 REV: E U/M: EA DRAWING NO: ARC-D\1007866
PWB ASSY,RF

SEQ	PART NUMBER	REV	D E S C R I P T I O N	U/M	QUANTITY-PER	DRAWING NUMBER	REF-DSGN
2750	55612-2200J		RES,FXD,METAL FILM,220,5%,1/4-1/2W	EA	1.000	TRW\GP55-2200+/-5%	R11
2770	55512-51R0J		RES,FXD,CARBON COMP,51,5%,1/4W	EA	1.000		R13
2780	55612-1001J		RES,FXD,METAL FILM,1K,5%,1/4-1/2W	EA	3.000	TRW\GP55-1001+/-5%	R14 ,R38 R39
2785	55512-5R10J		RES,FXD,CARBON COMP,5.1,5%,1/4W	EA	1.000	A-B\CB51G5	R37
2790	55612-1002J		RES,FXD,METAL FILM,10K,5%,1/4-1/2W	EA	3.000	TRW\GP55-1002+/-5%	R16 ,R17 R18
2820	55612-1500J		RES,FXD,METAL FILM,150,5%,1/4-1/2W	EA	2.000	TRW\GP55-1501+/-5%	R33 ,R34
2830	55512-39R0J		RES,FXD,CARBON COMP,39,5%,1/4W	EA	1.000	A-B\CB3905	R35
2835	55614-R100F		RES,FXD,PRECISION,.1,1%,1W	EA	1.000		R36
5000	1007867-101	C	PWB,RF BOARD	EA	1.000	ARC-D\1007867	1
5025	77067		ADH,CLEAR,RTV,1 TOUCH	EA A/R		G-E\GE108	15
5030	52009		HEAT SINK,TYPE TO-202,SLIP-ON,BLK ANODIZED	EA	1.000	AAV\5740B	16
5040	66046		WIRE,BUSS,TINNED COPPER,20 AWG	IN A/R			W1

REVISED AND REDRAWN



NOTES :

1.0 KEEP ALL LEADS AS SHORT AS POSSIBLE.
2.0 MOUNT R5,R7, AND R9 DOWN ON BOARD.
3.0 PLACE L5,L6, AND L7 ON BOARD USING ITEM 15.
4.0 PREVIOUS REVISIONS WERE MANUALLY DRAWN.

FOR BOM SEE 1007866-501

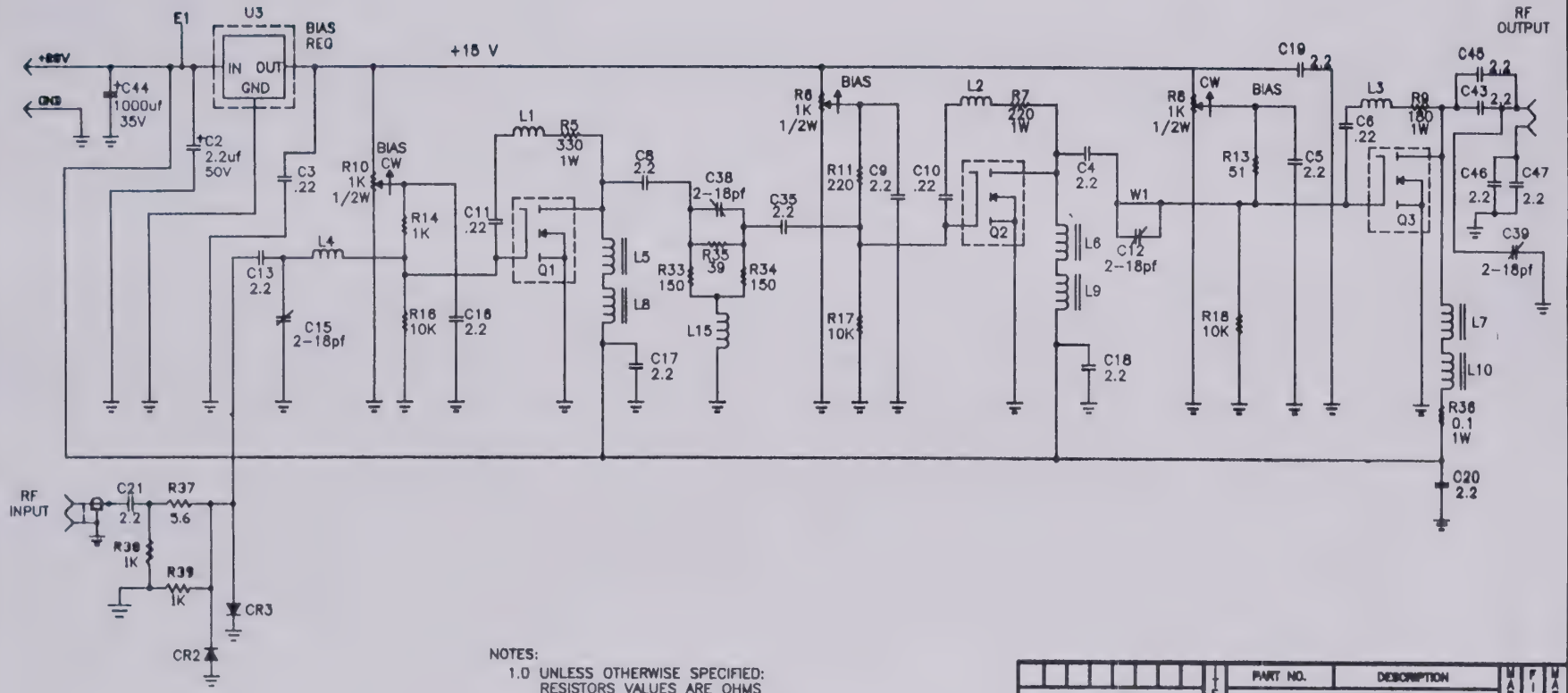
ITEM	QTY. REQD.	PART NO.	DESCRIPTION	MAR'K	FIN	MAT'L
		PARTS LIST				

AMPLIFIER RESEARCH

ASSEMBLY
RF BOARD

1007866

D



NOTES:

1.0 UNLESS OTHERWISE SPECIFIED:
RESISTORS VALUES ARE OHMS
RESISTOR RATINGS ARE 1/4 WATT
CAPACITOR VALUES ARE MICROFARADS.

2.0 THIS SCHEMATIC MAY REPRESENT MULTIPLE ASSEMBLIES. SEE APPROPRIATE PARTS LIST FOR FINAL COMPONENTS VALUES.

3.0 Q1,Q2,Q3,AND U3,ARE NOT MOUNTED ON BOARD UNTIL BOARD IS ASSEMBLED TO HEATSINK.

ITEM	QTY. REQD.	PART NO.	DESCRIPTION	MAR	PIN	MAT'L
		PARTS LIST				

UNLESS OTHERWISE SPECIFIED
DO NOT SCALE DRAWING
DIMENSIONS ARE IN INCHES AND INCLUDE PLATING THICKNESS
ALL THREADS ARE UNIFIED NATIONAL SERIES, CLASS 2
REMOVE ALL BURRS AND SHARP EDGES

BASIC DIMENSIONS	2 PLACE DECIMALS	3 PLACE DECIMALS
UP TO 6	±.02	±.005
ABOVE 6 TO 24	±.03	±.010
ABOVE 24	±.06	±.015

ANGULAR DIMENSIONS 1/2°

DRAWN	B.BALDASARI DATE 15 JUL 86
CHKD	J.H.REED DATE 20 OCT 95
MFGR	J.MAGINN DATE 20 NOV 95
ELED	M.WOLFGANG DATE 17 NOV 95

75A250
USED ON MODEL

AMPLIFIER RESEARCH

SCHEMATIC DIAG.
RF BOARD ASSY

DWG. NO. 1007868

SCALE NONE | SHEET 1 OF 1 | REV. D

AMPLIFIER RESEARCH

13:26:36 09 JUN 1998 * * * SINGLE LEVEL BILL OF MATERIAL LISTING * * * REPORT: E0056 PAGE: 1

BILL NO: 1007870-501 REV: A U/M: EA DRAWING NO:
RF COMPNT KIT

SEQ	PART NUMBER	REV	D E S C R I P T I O N	U/M	QUANTITY-PER	DRAWING NUMBER	REF-DSGN
2500	1000034-153	AZ	XSTR,TMOS,RF PWR,5W,2.0-400MHz	EA	2.000	ARC\1000034	Q1 ,Q2
2510	1000034-156	AZ	XSTR,TMOS,RF PWR,15W,2.0-400MHz	EA	1.000	ARC\1000034	Q3

AMPLIFIER RESEARCH

13:26:36 09 JUN 1998 * * * SINGLE LEVEL BILL OF MATERIAL LISTING * * * REPORT: E0056 PAGE: 1

BILL NO: 1007871-501 REV: F U/M: EA DRAWING NO: ARC-D\1007871
PWB ASSY,FINAL AMP

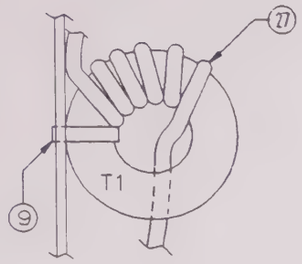
SEQ	PART NUMBER	REV	D E S C R I P T I O N	U/M	QUANTITY-PER	DRAWING NUMBER	REF-DSGN
0010	1007872	A	SCHEM DIAG,FINAL AMP	EA	REF	ARC-D\1007872	
0400	27229		CAPR,CER,2.2uF,50V	EA	13.000	\RPE210Z5U225Z050V	C6 ,C10 C11 ,C12 C14 ,C16 C17 ,C18 C19 ,C20 C21 ,C22 C23
0410	27029		CAPR,CHIP,10pF,10%,500V	EA	1.000	DIL\C17AH100K4TXL	C42
0415	27034		CAPR,CHIP,39pF,10%,500V	EA	1.000	DIL\C17AH390K500NT	C3
0420	27128		CAPR,VAR,2-18PF,250V	EA	2.000		C5 ,C41
0430	27259		CAPR,CHIP,CER,3.9pF,500V	EA	1.000	ATC\100B3R9CP500X	C8
0450	27255		CAPR,ELECT,220uF,63V,RADIAL	EA	2.000	SPR\678D227M0G3EK4	C13 ,C15
0460	27180		CAPR,CER,0.01uF,10%,100V	EA	2.000	AVX\CK05BX103K	C26 ,C27
0470	27236		CAPR,FXD,DIP SPACED CER,.1UF,50VDC	EA	12.000	AVX\MD015C104MAA	C28 ,C29 C30 ,C31 C32 ,C33 C34 ,C35 C36 ,C37 C38 ,C40
0480	27038		CAPR,CHIP,100pF,10%,500V	EA	1.000	DIL\C17AH101K500NT	C39
0500	27263		CAPR,FXD,DIP SPACED CER,.01uF,100V	EA	1.000	AVX\MD011C103KAB	C43
0700	1N5234B		DIODE,ZENER,6.2V,5%,500MW	EA	1.000	MOT\1N5234B	CR1
0710	1N4448		DIODE,SIGNAL,75V PIV	EA	1.000	FCH\1N4448	CR2
1510	20404		CABLE ASSY,COAX,RG-188A/U,SMA PNL,21.5	EA	1.000	ARC-A\1002494	J2
1810	66043		WIRE,BUSS,TINNED,COPPER,16 AWG	IN	A/R		L2 ,L3 W1
2700	55513-33R0J		RES,FXD,CARBON COMP,33,5%,1/2W	EA	2.000	A-B\EB3305	R4 ,R7
2710	55612-1002J		RES,FXD,METAL FILM,10K,5%,1/4-1/2W	EA	5.000	TRW\GP55-1002+/-5%	R8 ,R9 R21 ,R24 R26

BILL NO: 1007871-501 REV: F U/M: EA DRAWING NO: ARC-D\1007871
PWB ASSY,FINAL AMP

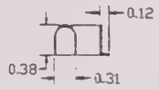
SEQ	PART NUMBER	REV	D E S C R I P T I O N	U/M	QUANTITY-PER	DRAWING NUMBER	REF-DSGN
2720	55916		RES,VAR,CERMET,MULTITURN,TOP ADJ,500,10%,1W	EA	2.000	MEP\8024EKW-501	R10 ,R12
2730	55612-8200J		RES,FXD,METAL FILM,820,5%,1/4-1/2W	EA	1.000	TRW\GP55-8200+/-5%	R11
2740	55616-R050F		RES,FXD,PRECISION,.05,1%,3W	EA	2.000	RCL\ L08-3-0.05-1%	R13 ,R14
2750	55612-1002B		RES,FXD,PRECISION,10K,0.1%,1/4W	EA	4.000	DAL\RN55C1002B	R15 ,R17 R18 ,R19
2760	55612-4701J		RES,FXD,METAL FILM,4.7K,5%,1/4-1/2W	EA	1.000	TRW\GP55-4701+/-5%	R20
2770	55918		RES,VAR,CERMET,MULTITURN,TOP ADJ,5K,10%,1W	EA	2.000	MEP\8024EKW502	R23 ,R27
2780	55612-5101J		RES,FXD,METAL FILM,5.1K,5%,1/4-/12W	EA	1.000	TRW/GP55-5101+/-5%	R25
3200	1002650-110	M	CORE,TAPE WOUND	EA	13.000	ARC-A\1002650	T1 ,T3 T4
3700	60013		INTEGRATED CKT,LINEAR,DUAL,OP.AMP.	EA	1.000	RCA\CA3240AE	U1
3710	60047		INTEGRATED CKT,3 TERM,POS REG.	EA	1.000	MOT\MC7824CT	U2
3720	60063		IC,V REF,1.2V	EA	1.000	MOT\LM285Z-1.2	U3
3730	60064		IC,DUAL,COMPARATOR	EA	1.000	MOT\LM393AN	U4
4500	73010		SOCKET,I.C.,8 PIN,DIP	EA	2.000	TII\C93-08-02	XU1 ,XU4
5000	1007519-101	E	PWB,FINAL AMP	EA	1.000	ARC-D\1007519	1
5080	69163		CABLE TIES,2.0 MAX BUNDLE DIA,8 L	EA A/R		PNT\PLT2I-CP	9
5120	66181	-	WIRE,COAX,25 OHM,1KV	IN A/R		MLC\RG316/25	13
5270	66096		WIRE,SHLD,1 COND,22 AWG,19 STR,WH TFE TAPE JCKT.	IN A/R			27
5280	77067		ADH,CLEAR,RTV,1 TOUCH	OZ A/R		G-E\GE108	31
5290	69161		CABLE TIES,1 3/8 MAX BUNDLE DIA,5 5/8 L	EA A/R		PNT\PLT1.5MP	32
5300	69330		CABLE TIES,2.0 MAX BUNDLE DIA,8.0 L	EA A/R		PNT\PLT2I-C76	33
5310	92128	-	TUBING,TFE,PFA 3/8 OD X 1/4 ID	IN	2.250	C-P\6375-05	34

REVISED AND REDRAWN ON CAD

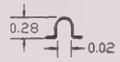
VIEW A–A



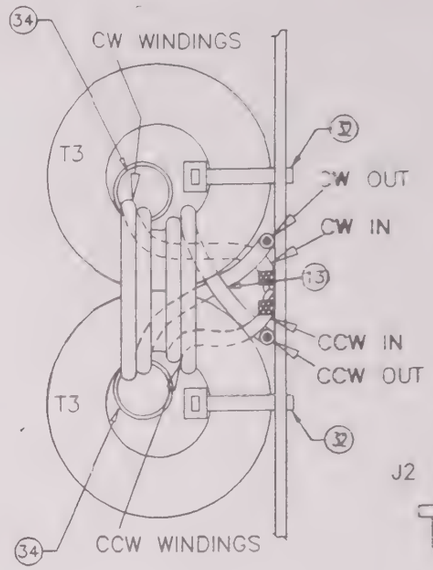
W1 DETAIL
(SCALE 2:1)

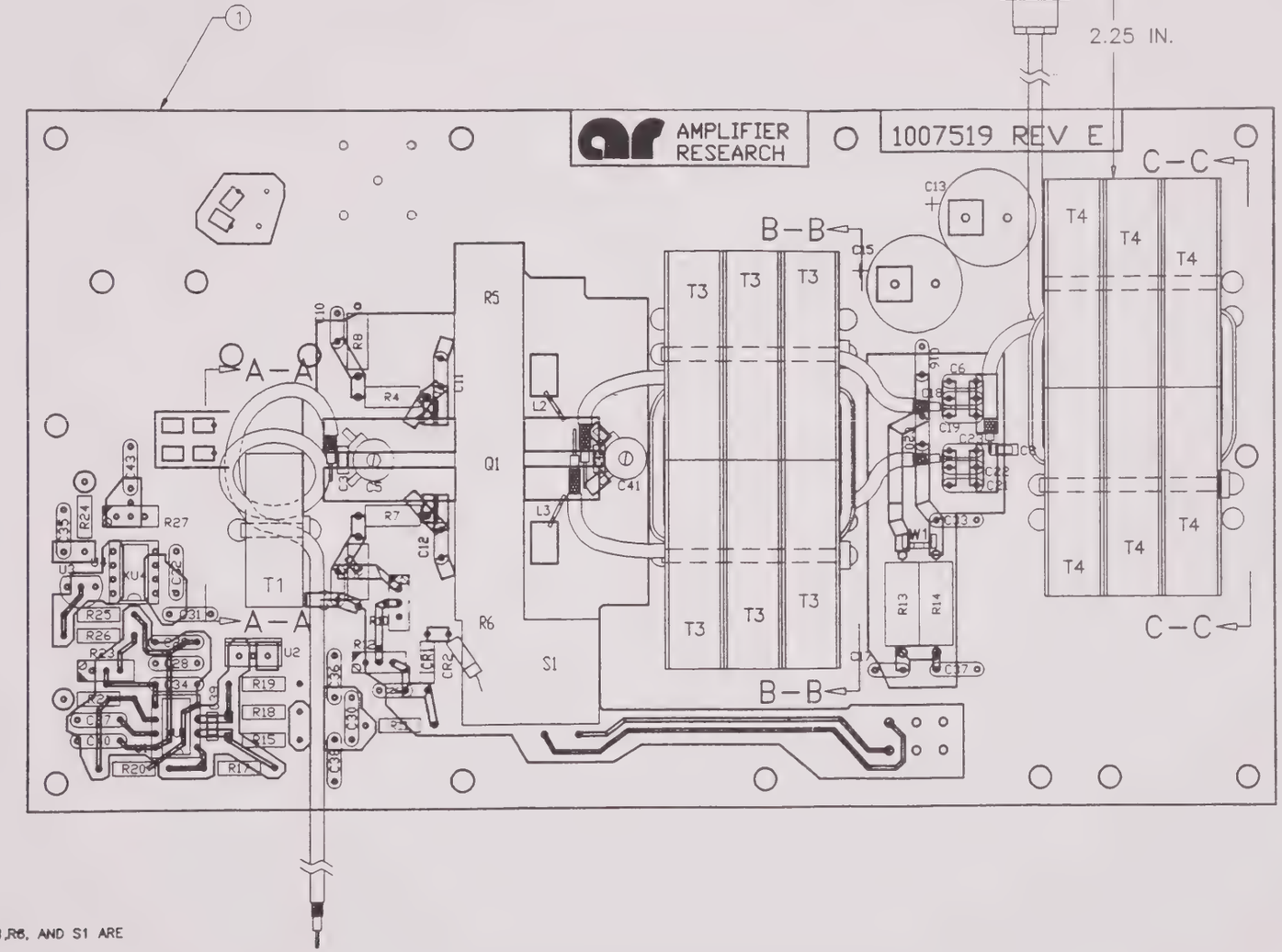


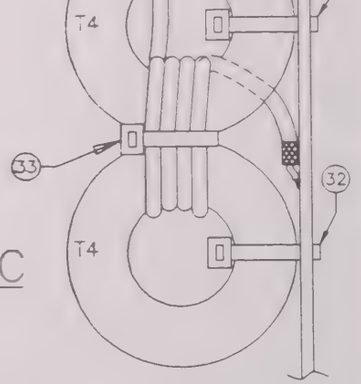
L2, L3 DETAIL
(SCALE 2:1)



VIEW B–B







VIEW C–C

NOTES:

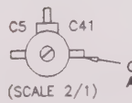
1.0 REFERENCE DESIGNATORS R5,Q1,R6, AND S1 ARE SHOWN FOR REFERENCE ONLY.

2.0 VIEW A–A
APPLY THIN LAYER OF ITEM 31 TO BOTTOM OF CORE. TIE CORE TO BOARD. WRAP SIX (6) TURNS OF ITEM 27 ON CORE. DO NOT TRIM COAX.

3.0 VIEW B–B
APPLY THIN LAYER OF ITEM 31 TO BOTTOM OF CORES. TIE CORES (T3) TO BOARD,ATTACH CW IN AND CCW IN COAX ENDS TO PCB.WIND ONE COAX LENGTH CLOCKWISE THRU CORES AND TEFLON SLEEVING FOR TWO TURNS. ATTACH END AS SHOWN, WIND THE OTHER LENGTH OF COAX COUNTERCLOCKWISE THRU THE CORES OVER THE FIRST LENGTH AND ATTACH END AS SHOWN. THE COAX TURNS SHOULD LAY FLAT AGAINST THE FRONT AND BACK OF THE CORES. DO NOT TRIM COAX

4.0 VIEW C–C
APPLY THIN LAYER OF ITEM 31 TO BOTTOM OF CORES. TIE CORES T4 TO BOARD. WIND FOUR (4)TURNS OF CABLE FROM J2 AROUND CORES. DO NOT TRIM COAX. ALL COAX LENGTHS SHOULD LAY FLAT, SECURE WITH ITEM 33.

5.0 MOUNT C3 AS CLOSE TO T1 CONNECTIONS AS POSSIBLE.



CUT OFF THIS LEG OF C5, AND C41 PRIOR TO INSTALLING.

FOR BOM: SEE 1007871-501

ITEM	QTY. REQD.	PART NO.	DESCRIPTION	MARK	FIN	MATL
		PARTS LIST				

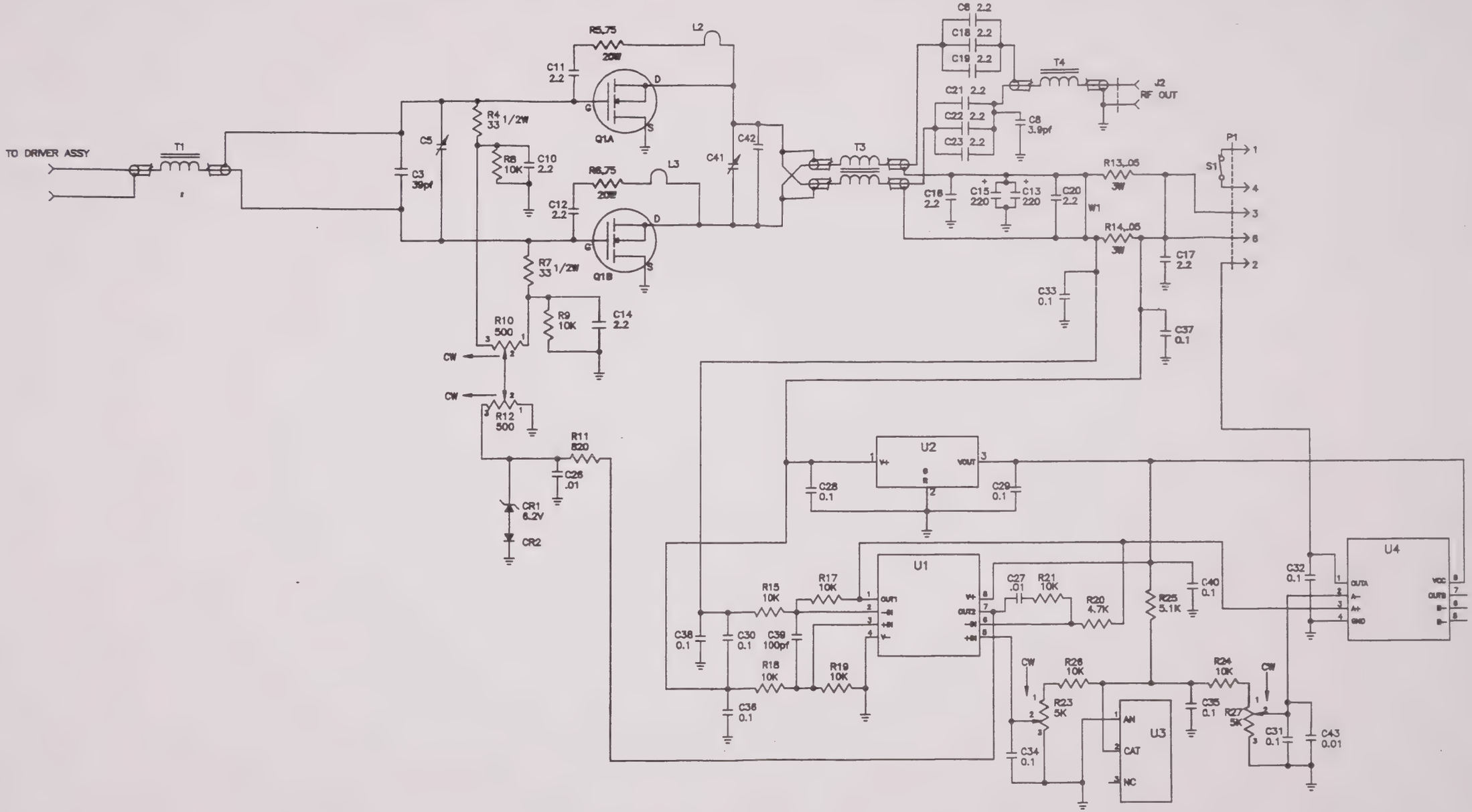
DRAWN	J.DUREED
CHECK	J.DUREED
ENGR	J.MASON
MFG	M.MCLAUGHLIN
QUALITY	
SCALE	2/1
SHEET	1 OF 1
REV	G

AMPLIFIER RESEARCH

PWB ASSEMBLY FINAL AMP

DWG. NO. 1007871

75A250 USED ON MODEL



NOTES
1.0 UNLESS OTHERWISE SPECIFIED
RESISTOR VALUES ARE OHMS
RESISTOR RATINGS ARE 1/4 WATT
CAPACITOR VALUES ARE MICROFARADS

2.0 THIS SCHEMATIC MAY REPRESENT MULTIPLE ASSEMBLIES, SEE APPROPRIATE PARTS LIST FOR FINAL COMPONENT VALUES

REFERENCE LAST USED		DESIGNATIONS NOT USED
C43	R28	J1,L1,& T2
CR2	S1	C1,C2,C4,C7,C9,C24,C25
J2	T4	R1,R2,R3,R16,R22,R28
L3	U4	
P1		

ITEM	QTY. REQD.	PART NO.	DESCRIPTION	MARK	FIN	MAT'L
			PARTS LIST			

UNLESS OTHERWISE SPECIFIED DO NOT SCALE DRAWING. DIMENSIONS ARE IN INCHES AND INCLUDE PLATING THICKNESS. ALL TAPPINGS ARE MODIFIED NATIONAL GAGE CLASS 2 UNLESS ALL BURRS AND SHARP EDGES

DIMS	3 PLACE DECIMALS	2 PLACE DECIMALS
UP TO 1	±.005	±.010
OVER 1 UP TO 24	±.010	±.020
OVER 24	±.020	±.040

ANGULAR DIMENSIONS ±1/2°

SC250
USED ON MODEL

DRAWN J.H.REED DATE 23 OCT 95
CHKD J.H.REED DATE 3 NOV 95
MECH J.MAGINN DATE 20 NOV 95
ELEC M.WOLFGANG DATE 17 NOV 95

AMPLIFIER RESEARCH

SCHEMATIC DIAG
FINAL AMP ASSY

DWG. NO. 1007872

SCALE N/S SHEET 1 OF 1 REV A

BILL NO: 1007528-501 REV: A U/M: EA DRAWING NO:
RF COMP KIT

SEQ	PART NUMBER	REV	D E S C R I P T I O N	U/M	QUANTITY-PER	DRAWING NUMBER	REF-DSGN
2500	1000034-180		XSTR,RF,HI PWR,FET	EA	1.000	ARC-A\1000034	Q1
2700	55625-75R0F		RES,FXD,FILM,PRECISION,75,1%,20W	EA	2.000	CAD\MP820-75.0-1	R5 ,R6
3100	57069		SW,TEMP SENSING,N.C.,OPEN AT 80C	EA	1.000	AIR\67L080	S1

BILL NO: 1008071-501 REV: B U/M: EA DRAWING NO: ARC-C\1008071
PWB ASSY,REGULATOR BD

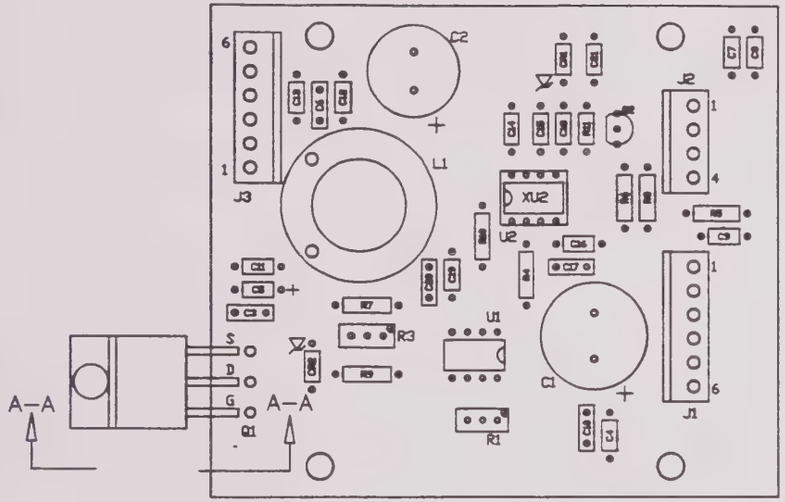
SEQ	PART NUMBER	REV	D E S C R I P T I O N	U/M	QUANTITY-PER	DRAWING NUMBER	REF-DSGN
0010	1008073	B	SCHEM,DIAG,REGULATOR	EA	REF	ARC-C\1008073	
0400	27255		CAPR,ELECT,220uF,63V,RADIAL	EA	1.000	SPR\678D227M0G3EK4	C1
0410	27260		CAPR,ELECT,1000uf,35V	EA	1.000	MAL\SKR102M1VJ21V	C2
0420	27051		CAPR,TANT,33UF,35VDC,EPOXY	EA	1.000	AVX\TAP336K035HSB	C3
0430	27236		CAPR,FXD,DIP SPACED CER,.1UF,50VDC	EA	7.000	AVX\MD015C104MAA	C4 .C9 C11 .C13 C16 .C18 C19
0440	27263		CAPR,FXD,DIP SPACED CER,.01uF,100V	EA	5.000	AVX\MD011C103KAB	C5 .C7 C8 .C12 C21
0450	27229		CAPR,CER,2.2uF,50V	EA	4.000	\RPE210Z5U225Z050V	C6 .C10 C17 .C20
0460	27045		CAPR,CER,0.33uF,20%,100VDC	EA	2.000	TCC\EC05ZE0333M	C14 .C15
0700	1N759A		DIODE,ZENER,12V,5%,400MW	EA	1.000	MOT\1N759A	CR1
0710	1N965A		DIODE,ZENER,15V	EA	1.000	MOT\1N965A	CR2
1500	41083		CONN,LOCKING HEADER,STR,6 PIN	EA	2.000	PNT\MLSS156-6-C	J1 .J3
1510	41211		CONN,LOCKING HEADER,STR,4 PIN	EA	1.000	PNT\MLSS156-4	J2
1800	49290		INDUCTOR,CORE,023-907X1-16-16-5-1	EA	1.000	ARC-A\1002497	L1
2510	2N3904		XSTR,SWNG,NPN,40V,0.2A,1W	EA	1.000		Q2
2700	55915		RES,VAR,CERMET,MULTITURN,TOP ADJ,100,10%,1/2W	EA	2.000	MEP\8024EXW101	R1 .R3
2710	55612-1000J		RES,FXD,METAL FILM,100,5%,1/4-1/2	EA	1.000	TRW\GP55-1000+/-5%	R4
2720	55612-2701J		RES,FXD,METAL FILM,2.7K,5%,1/4-1/2W	EA	1.000	TRW\GP55-2701+/-5%	R5
2730	55612-1002F		RES,FXD,PRECISION,10K,1%,1/4-1/2W,CHAR.D	EA	1.000	MFG\RN55D1002F	R6
2740	55612-5101J		RES,FXD,METAL FILM,5.1K,5%,1/4-/12W	EA	1.000	TRW/GP55-5101+/-5%	R7
2750	55612-2201J		RES,FXD,METAL FILM,2.2K,5%,1/4-1/2W	EA	1.000	TRW\GP55-2201+/-5%	R8
2760	55612-2000J		RES,FXD,METAL FILM,200,5%,1/4-1/2W	EA	2.000	TRW\GP55-2000+/-5%	R9 .R11

BILL NO: 1008071-501 REV: B U/M: EA DRAWING NO: ARC-C\1008071
PWB ASSY,REGULATOR BD

SEQ	PART NUMBER	REV	D E S C R I P T I O N	U/M	QUANTITY-PER	DRAWING NUMBER	REF-DSGN
2770	55612-1001F		RES,FXD,PRECISION,1K,1%,1/4-1/2W,CHAR.D	EA	1.000	MFG\RN55D1001F	R11
3700	60071		I.C.,MOSFET REGULATOR	EA	1.000	MRC\MIC5156BN	U1
3710	60072		I.C.,MOSFET DRIVER	EA	1.000	MRC\MIC5011BN	U2
4500	73010		SOCKET,I.C.,8 PIN,DIP	EA	2.000	TII\C93-08-02	XU1 ,XU2
5000	1008072-101	D	PWB,REGULATOR BD	EA	1.000	ARC-B\1008072	1

ECN	DATE	REV
—	28MAR96	1
—	25APR96	2
REL	29APR96	—
85201	14MAY96	A

VIEW A–A



FOR BOM SEE: 1008071-501
1008071-502

NOTE:
1.0 MOUNT ALL COMPONENTS FLUSH WITH BOARD.
2.0 TRIM ALL LEADS TO A MAXIMUM HEIGHT OF .05IN.

ITEM	QTY. REQD.	PART NO.	DESCRIPTION	MARK	FIN	MATL
		PARTS LIST				

UNLESS OTHERWISE SPECIFIED
DO NOT SCALE DRAWING
DIMENSIONS ARE IN INCHES AND INCLUDE PLATING THICKNESS
ALL THREADS ARE UNIFIED NATIONAL SERIES, CLASS 2
REMOVE ALL BURRS AND SHARP EDGES

BASIC DIMENSIONS	2 PLACE DECIMALS	3 PLACE DECIMALS
UP TO 6	±.02	±.005
ABOVE 6 TO 24	±.03	±.010
ABOVE 24	±.06	±.015

ANGULAR DIMENSIONS 1/2

75A250
25A\50A
USED ON MODEL

DRAWN J.H.REED DATE 28 MAR 96
CHKD J.H. REED DATE 29 APR 96
MECH J.MAGINN DATE 19 MAY 96
ELEC J.CATON DATE 15 MAY 96

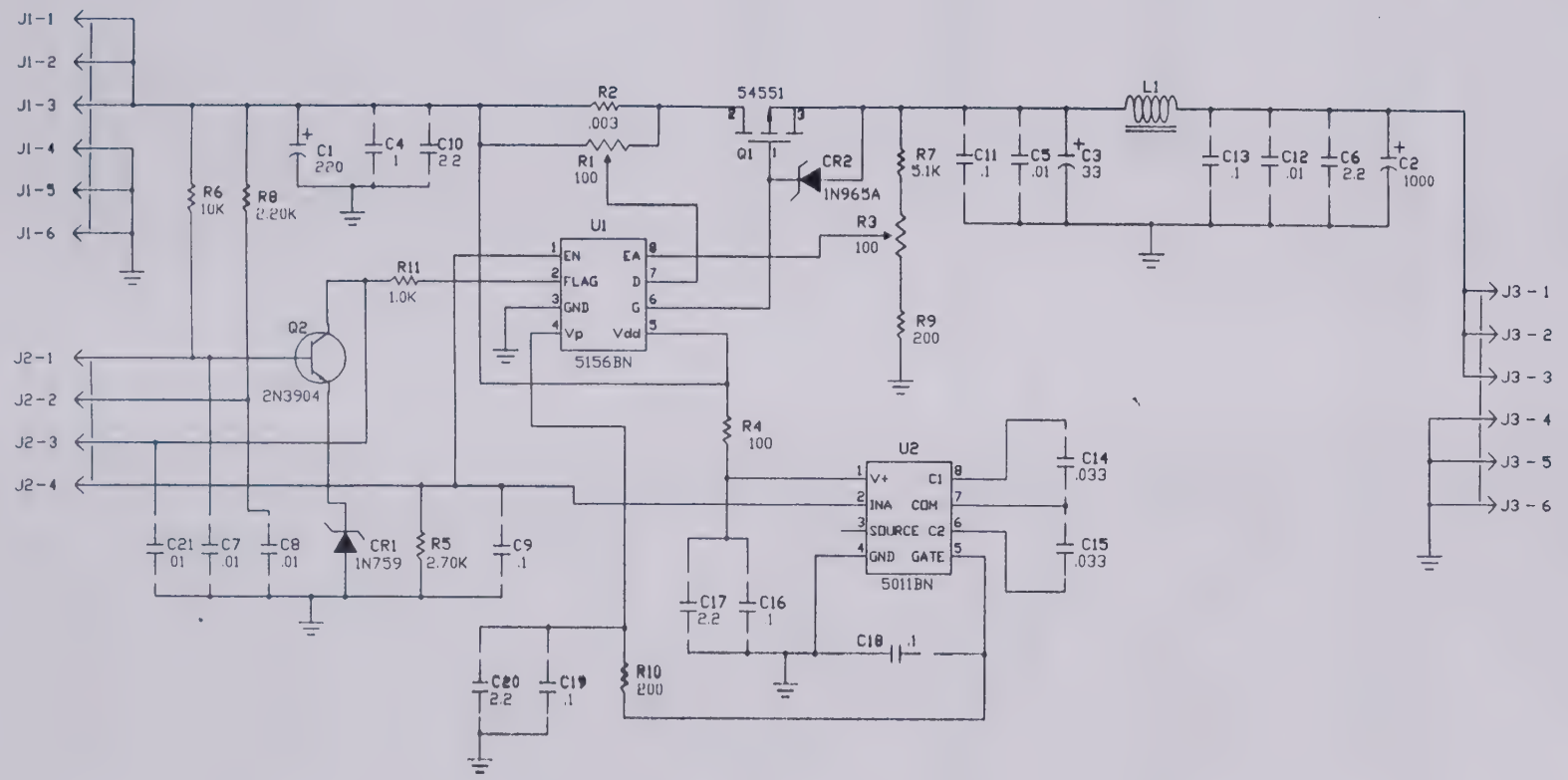
AMPLIFIER RESEARCH

ASSEMBLY REGULATOR

DWG. NO. 1008071

SCALE 1/1 | SHEET 1 OF . | REV. A

ECN	DATE	REV
—	28MAR96	1
—	26APR96	2
REL	07MAY96	—
BS20	14NOV96	A
9213	05DEC97	B



FOR BOM SEE: 1008071-501
1008071-502

NOTES:

1.0 UNLESS OTHERWISE INDICATED, ALL RESISTORS ARE IN OHMS, 1/4 WATT.

2.0 ALL CAPACITORS ARE IN MICROFARADS.

ITEM	QTY. REQD.	PART NO.	DESCRIPTION	MARK	FIN	MATL
		PARTS LIST				

UNLESS OTHERWISE SPECIFIED DO NOT SCALE DRAWING DIMENSIONS ARE IN INCHES AND INCLUDE PLATING THICKNESS ALL THREADS ARE UNIFIED NATIONAL SERIES, CLASS 2 REMOVE ALL BURRS AND SHARP EDGES

BASIC DIMENSIONS	2 PLACE DECIMALS	3 PLACE DECIMALS
UP TO 6	±.02	±.005
ABOVE 6 TO 24	±.03	±.010
ABOVE 24	±.06	±.015

ANGULAR DIMENSIONS 1/2°

USED ON MODEL
75A250
25A250

DRAWN J.H.REED DATE 28 MAR 96
CHKD J.H.REED DATE 29 APR 96
MECH J.MAGINN DATE 11 MAY 96
ELEC J.CATON DATE 17 MAY 96

AMPLIFIER RESEARCH

SCHEMATIC REGULATOR

DWG. NO. 1008073

SCALE 1/1 SHEET 1 OF 1 REV. B

SECTION VI

RECOMMENDED SPARE PARTS

6.1 LEVEL OF MAINTENANCE

Three separate lists of parts are recommended for maintenance of the related amplifier. Each list will contain parts that will be required for repairs to be performed at a particular level of technical expertise and equipment needed to perform this level of maintenance. The three levels of maintenance are as follows.

Level 1—Technician Level

Performed at equipment location with connectorized items. Limited to replacement of printed wiring boards (PWBs), amplifier assemblies, fuses, and so forth. Requires qualified technical personnel. Suggested when down time must be minimized.

Level 2—Field Service/Shop Level

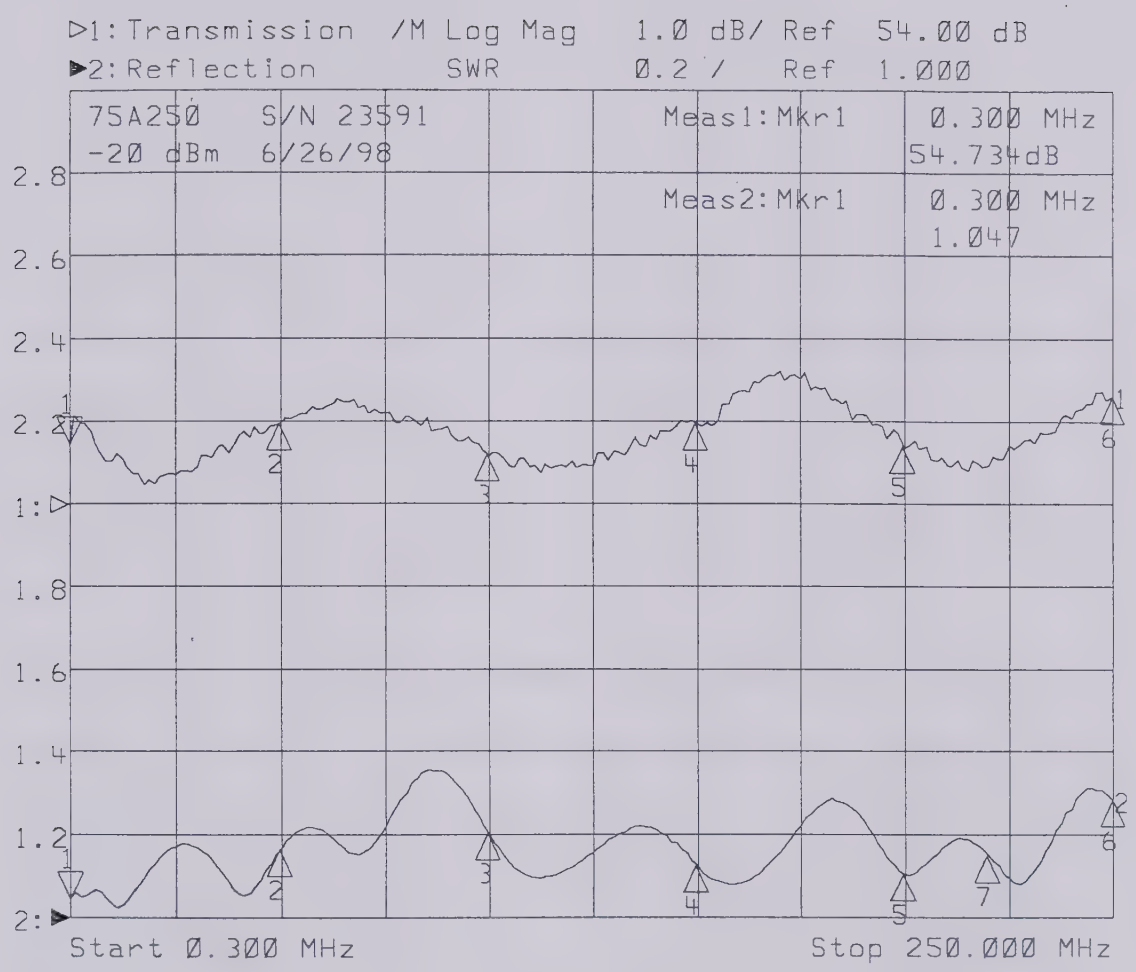
Parts replacement requiring minimum adjustment or alignment. Includes PWB repair, and replacement of controls, power supply components, fans, and individual Radio Frequency (RF) components that would not adversely affect the amplifier's alignment.

Level 3—Factory-Authorized Level

Repairs that require amplifier alignment or major adjustments. To be performed by a qualified technical staff in a properly instrumented laboratory.

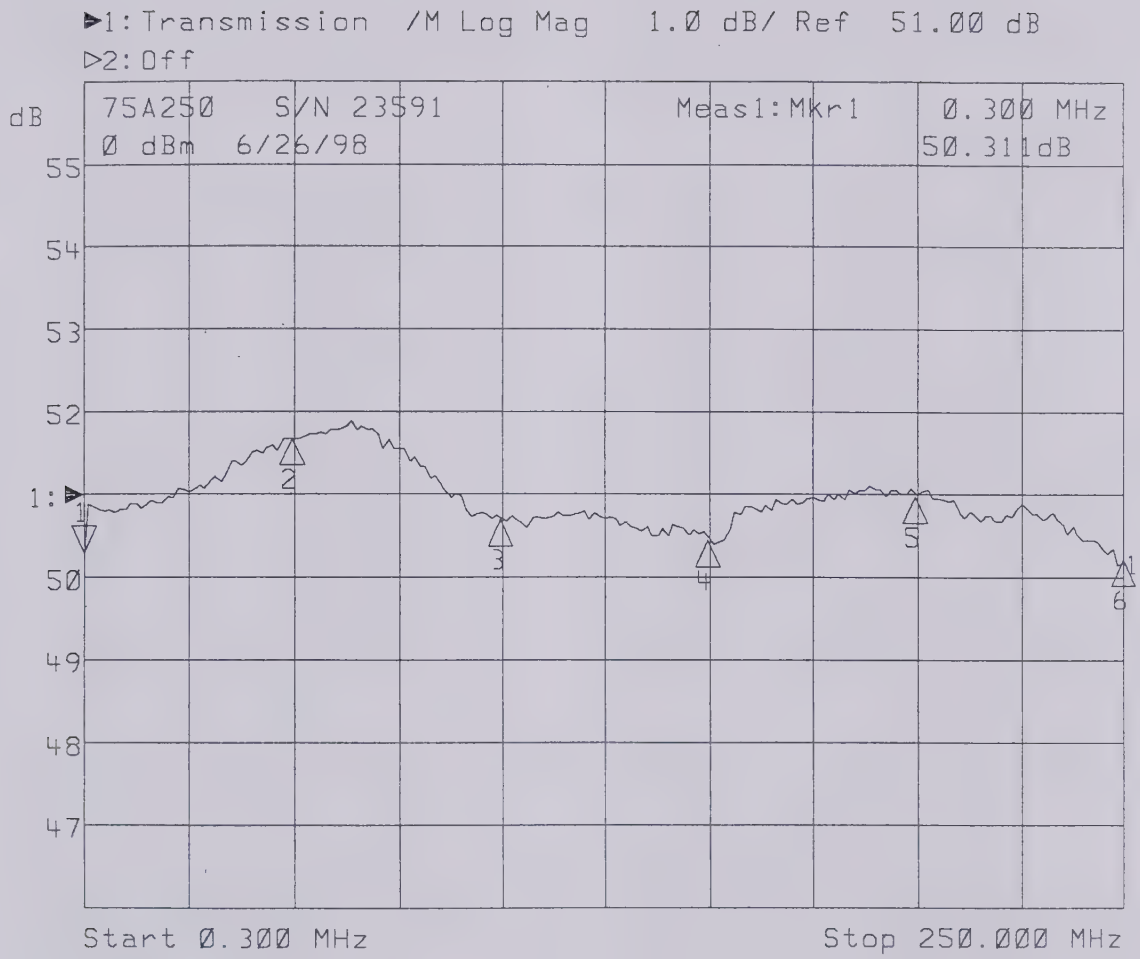
BILL NO: 1007750-501 REV: E U/M: EA DRAWING NO: ARC-D\1007750
MODEL 75A250,10KHZ-250MHZ,75 WATTS

ITM	PART NUMBER AND DESCRIPTION	DRAWING NUMBER	REV	U/M	SCRAP PCTG	MRP	MANF CLASS	QUANTITY-PER	SPARE-QTY	LEVEL	REFERENCE DESIGNATORS
1	1000034-153	ARC\1000034	AZ	EA		P	QT01	0.000	0	3	Q1
	XSTR,TMOS,RF PWR,5W,2.0-400MHz							0.000			Q2
2	1000034-156	ARC\1000034	AZ	EA		P	QT01	0.000	0	3	Q3
	XSTR,TMOS,RF PWR,15W,2.0-400MHz							0.000			
3	1N4448	FCH\1N4448		EA		P	CR01	0.000	0	2 3	CR2
	DIODE,SIGNAL,75V PIV							0.000			CR3
4	55917	MEP\RJ24FW102		EA		P	RV12	0.000	0	3	R6
	RES,VAR,CERMET,MULTITURN,TOP ADJ,1K,10%,1W							0.000			R8
								0.000			R10



1: Mkr (MHz)		dB
1>	Ø.3ØØØ	54.734
2:	5Ø.ØØØØ	54.973
3:	1ØØ.ØØØØ	54.592
4:	15Ø.ØØØØ	54.98Ø
5:	2ØØ.ØØØØ	54.694
6:	25Ø.ØØØØ	55.3Ø2

2: Mkr (MHz)		
1>	Ø.3ØØØ	1.Ø47
2:	5Ø.ØØØØ	1.165
3:	1ØØ.ØØØØ	1.2Ø4
4:	15Ø.ØØØØ	1.127
5:	2ØØ.ØØØØ	1.1Ø5
6:	25Ø.ØØØØ	1.284
7:	22Ø.ØØØØ	1.151



1: Mkr (MHz)		dB	2: Mkr (MHz)
1>	Ø.3ØØØ	5Ø.311	
2:	5Ø.ØØØØ	51.678	
3:	1ØØ.ØØØØ	5Ø.712	
4:	15Ø.ØØØØ	5Ø.452	
5:	2ØØ.ØØØØ	5Ø.977	
6:	25Ø.ØØØØ	5Ø.226	

AMPLIFIER RESEARCH

MODEL NO. 75A250
SERIAL NO. 23591
TESTED BY B.Tuttle
DATE 6/26/98

TEST DATA SHEET

FREQ. (MHz)	POWER OUTPUT @ 1dB COMPRESSION (WATTS)	POWER OUTPUT SATURATED (WATTS) @ 0dBm INPUT	HARMONIC DISTORTION dBc AT 50 WATT OUTPUT
0.01	98.8	120	-40
0.05	106.3	139	-40
.1	106.7	140	-38
1	104.2	138	-32
10	102.5	132	-32
50	117.7	145	-30
100	95.6	124	-30
150	73.8	106.8	-40
200	77.5	119.7	-45
225	63.9	107.9	-48
250	54.1	95	-50

GAIN 54.0 dB @ 1.0 WATTS OUTPUT @ 100 MHz LINE VOLTAGE 120

FLATNESS ± .75 dB

OPEN TEST ✓ (√)

SHORT TEST ✓ (√)

STABILITY ✓ (√)

INPUT VSWR >1.3:1

TEST EQUIPMENT	S/N
SIGNAL GENERATOR	TEC-SG 1197
POWER METER	TEC-PM 1800
SPECTRUM ANALYZER	TEC-SA 1478
NETWORK ANALYZER	TEC-NA 1761
FIXED ATTEN. (20 db)	TEC-AT 1612
FIXED ATTEN. (30 db)	TEC-AT 1150

TEST EQUIPMENT CALIBRATED TO NATIONAL INSTITUTE OF STANDARDS & TECHNOLOGY. (NIST)

AMPLIFIER RESEARCH
In compliance to IEC 1010-1
Safety requirements of electrical equipment for laboratory use
Annex K

ROUTINE TESTS

Model : 75A250

Serial No. : 23591

Date : 6/26/98

Inspected By : B. Thiel

Tests: For equipment with working voltage up to 300 V

Protective earth resistance	Limit	
Apply 25 amps between protective terminal and **ACCESSIBLE** parts. Record resistance.	≤ 0.1 ohms	.04 ohms

Mains circuit insulation	(Circle one)	(√)
Apply voltage from the mains input to chassis for a period of time greater than two (2) seconds. No arcing or breakdown should occur.	1350 VAC (1900 VDC)	✓

Floating input terminals	Record Voltage	(√)
Apply 1.5 times working voltage to floating input terminals, where applicable. No arcing or breakdown should occur.	N/A	N/A

WARRANTIES: LIMITATION OF LIABILITY

Seller warrants (i) that seller has title to the goods sold and (ii) that Amplifiers, Antennas, Directional Couplers, and Field Monitoring Equipment will be free from defects in material and workmanship for a period of two (2) years from date of shipment shown on Amplifier Research invoice; other products and vacuum tubes will be free from defects in material and workmanship for a period of one (1) year. Seller's sole responsibility in fulfilling these warranties shall be to repair or replace any goods which do not conform to the foregoing warranties or, at seller's option, to give buyer credit for defective goods. The warranty is valid only when used in the country specified at time of order. Warranty service must be obtained from the repair facility designated at that time. If warranty service is not available in the country where the equipment is to be used then it must be returned to Amplifier Research. Warranty service will be provided only for defective goods which are returned within the warranty period, freight costs prepaid to Amplifier Research or its designated repair facility.

There are no other warranties, express or implied, including any warranty of merchantability or fitness. Seller shall not be responsible for any incidental or consequential damages arising from any breach of warranty.

No person other than an officer of Amplifier Research Corporation, has any authority to bind seller to any affirmation, representation or warranty except as specifically included in the preceding terms and conditions.